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TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * Welcome to STN International * * * * *

NEWS	1		Web Page for STN Seminar Schedule - N. America
NEWS	2	NOV 21	CAS patent coverage to include exemplified prophetic substances identified in English-, French-, German-, and Japanese-language basic patents from 2004-present
NEWS	3	NOV 26	MARPAT enhanced with FSORT command
NEWS	4	NOV 26	CHEMSAFE now available on STN Easy
NEWS	5	NOV 26	Two new SET commands increase convenience of STN searching
NEWS	6	DEC 01	ChemPort single article sales feature unavailable
NEWS	7	DEC 12	GBFULL now offers single source for full-text coverage of complete UK patent families
NEWS	8	DEC 17	Fifty-one pharmaceutical ingredients added to PS
NEWS	9	JAN 06	The retention policy for unread STNmail messages will change in 2009 for STN-Columbus and STN-Tokyo
NEWS	10	JAN 07	WPIDS, WPINDEX, and WPIX enhanced Japanese Patent Classification Data
NEWS	11	FEB 02	Simultaneous left and right truncation (SLART) added for CERAB, COMPUAB, ELCOM, and SOLIDSTATE
NEWS	12	FEB 02	GENBANK enhanced with SET PLURALS and SET SPELLING
NEWS	13	FEB 06	Patent sequence location (PSL) data added to USGENE
NEWS	14	FEB 10	COMPENDEX reloaded and enhanced
NEWS	15	FEB 11	WTEXTILES reloaded and enhanced
NEWS	16	FEB 19	New patent-examiner citations in 300,000 CA/Caplus patent records provide insights into related prior art
NEWS	17	FEB 19	Increase the precision of your patent queries -- use terms from the IPC Thesaurus, Version 2009.01
NEWS	18	FEB 23	Several formats for image display and print options discontinued in USPATFULL and USPAT2
NEWS	19	FEB 23	MEDLINE now offers more precise author group fields and 2009 MeSH terms
NEWS	20	FEB 23	TOXCENTER updates mirror those of MEDLINE - more precise author group fields and 2009 MeSH terms
NEWS	21	FEB 23	Three million new patent records blast AEROSPACE into STN patent clusters
NEWS	22	FEB 25	USGENE enhanced with patent family and legal status display data from INPADOCDB
NEWS EXPRESS		JUNE 27 08	CURRENT WINDOWS VERSION IS V8.3, AND CURRENT DISCOVER FILE IS DATED 23 JUNE 2008.
NEWS HOURS			STN Operating Hours Plus Help Desk Availability
NEWS LOGIN			Welcome Banner and News Items
NEWS IPC8			For general information regarding STN implementation of IPC 8

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* * * * * STN Columbus * * * * *

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=> file reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.22

0.22

FILE 'REGISTRY' ENTERED AT 17:28:23 ON 26 FEB 2009

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STRUCTURE FILE UPDATES: 25 FEB 2009 HIGHEST RN 1111946-16-7

DICTIONARY FILE UPDATES: 25 FEB 2009 HIGHEST RN 1111946-16-7

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=>

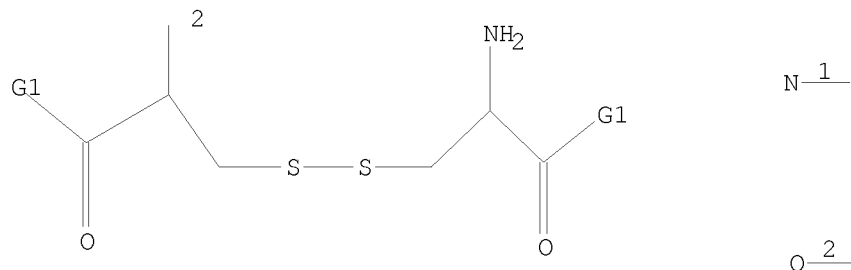
Uploading C:\Program Files\Stnexp\Queries\09312351.str

L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR



G1 [@1],[@2]

Structure attributes must be viewed using STN Express query preparation.

=> s l1

SAMPLE SEARCH INITIATED 17:29:01 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 280 TO ITERATE

100.0% PROCESSED 280 ITERATIONS 12 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 4597 TO 6603
PROJECTED ANSWERS: 33 TO 447

L2 12 SEA SSS SAM L1

=> s l1 full
FULL SEARCH INITIATED 17:29:05 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 5920 TO ITERATE

100.0% PROCESSED 5920 ITERATIONS 342 ANSWERS
SEARCH TIME: 00.00.01

L3 342 SEA SSS FUL L1

=> file caplus
COST IN U.S. DOLLARS SINCE FILE TOTAL
ENTRY SESSION
FULL ESTIMATED COST 185.88 186.10

FILE 'CAPLUS' ENTERED AT 17:29:09 ON 26 FEB 2009
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FILE COVERS 1907 - 26 Feb 2009 VOL 150 ISS 9
FILE LAST UPDATED: 25 Feb 2009 (20090225/ED)

Caplus now includes complete International Patent Classification (IPC) reclassification data for the third quarter of 2008.

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<http://www.cas.org/legal/infopolicy.html>

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l3
L4 685 L3
=> s l4 not py > 1998
11495765 PY > 1998
L5 417 L4 NOT PY > 1998

=> d l5 ibib and hitstr 1-30
'AND' IS NOT A VALID FORMAT FOR FILE 'CAPLUS'

The following are valid formats:

```
ABS ----- GI and AB
ALL ----- BIB, AB, IND, RE
APPS ----- AI, PRAI
BIB ----- AN, plus Bibliographic Data and PI table (default)
CAN ----- List of CA abstract numbers without answer numbers
CBIB ----- AN, plus Compressed Bibliographic Data
CLASS ----- IPC, NCL, ECLA, FTERM
DALL ----- ALL, delimited (end of each field identified)
DMAX ----- MAX, delimited for post-processing
FAM ----- AN, PI and PRAI in table, plus Patent Family data
FBIB ----- AN, BIB, plus Patent FAM
IND ----- Indexing data
IPC ----- International Patent Classifications
MAX ----- ALL, plus Patent FAM, RE
PATS ----- PI, SO
SAM ----- CC, SX, TI, ST, IT
SCAN ----- CC, SX, TI, ST, IT (random display, no answer numbers;
              SCAN must be entered on the same line as the DISPLAY,
              e.g., D SCAN or DISPLAY SCAN)
STD ----- BIB, CLASS

IABS ----- ABS, indented with text labels
IALL ----- ALL, indented with text labels
IBIB ----- BIB, indented with text labels
IMAX ----- MAX, indented with text labels
ISTD ----- STD, indented with text labels

OBIB ----- AN, plus Bibliographic Data (original)
OIBIB ----- OBIB, indented with text labels

SBIB ----- BIB, no citations
SIBIB ----- IBIB, no citations

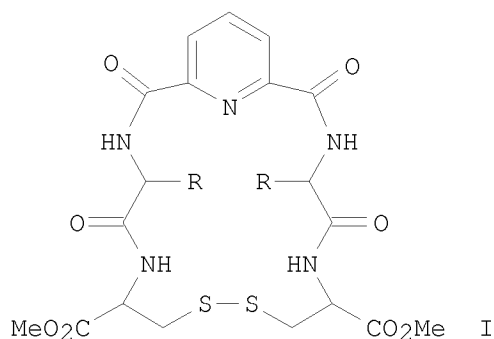
HIT ----- Fields containing hit terms
HITIND ----- IC, ICA, ICI, NCL, CC and index field (ST and IT)
              containing hit terms
HITRN ----- HIT RN and its text modification
HITSTR ----- HIT RN, its text modification, its CA index name, and
              its structure diagram
HITSEQ ----- HIT RN, its text modification, its CA index name, its
              structure diagram, plus NTE and SEQ fields
FHITSTR ----- First HIT RN, its text modification, its CA index name, and
              its structure diagram
FHITSEQ ----- First HIT RN, its text modification, its CA index name, its
              structure diagram, plus NTE and SEQ fields
KWIC ----- Hit term plus 20 words on either side
OCC ----- Number of occurrence of hit term and field in which it occurs
```

To display a particular field or fields, enter the display field codes. For a list of the display field codes, enter HELP DFIELDS at an arrow prompt (=>). Examples of formats include: TI; TI,AU; BIB,ST; TI,IND; TI,SO. You may specify the format fields in any order and the information will be displayed in the same order as the format specification.

All of the formats (except for SAM, SCAN, HIT, HITIND, HITRN, HITSTR, FHITSTR, HITSEQ, FHITSEQ, KWIC, and OCC) may be used with DISPLAY ACC to view a specified Accession Number.
ENTER DISPLAY FORMAT (BIB):end

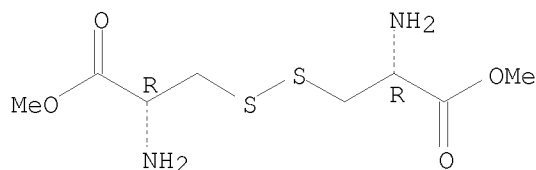
=> d 15 ibib abs hitstr 1-30

L5 ANSWER 1 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1998:778217 CAPLUS
DOCUMENT NUMBER: 130:110621
TITLE: Synthesis of a new series of cyclic pseudopeptides
containing pyridine as backbone modifier
AUTHOR(S): Huang, Hai; Mu, Lin-Jing; Cheng, Jin-Pei; Lu,
Jian-Ming; Hu, Xu-Bo
CORPORATE SOURCE: Department of Chemistry, Nankai University, Tianjin,
300071, Peop. Rep. China
SOURCE: Synthetic Communications (1998), 28(24), 4639-4647
CODEN: SYNCAV; ISSN: 0039-7911
PUBLISHER: Marcel Dekker, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 130:110621
GI



AB A new class of cyclic pseudopeptides I (R = H, Me, CH₂CHMe₂, etc.) which contains pyridine and cystine in the backbone structure was synthesized by a simple three-step preparation. The structures of products were characterized by spectroscopic and conventional anal. methods.
IT 1069-29-0, L-Cystine dimethyl ester
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of cyclic pseudopeptides containing pyridine and disulfide moieties)
RN 1069-29-0 CAPLUS
CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

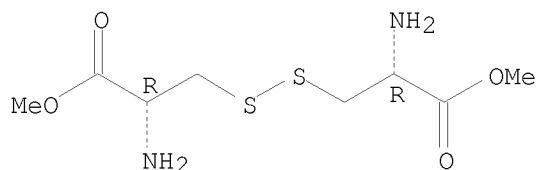
L5 ANSWER 2 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1998:722113 CAPLUS
DOCUMENT NUMBER: 130:92043
TITLE: The Nonribosomal Peptide Synthetase HMWP2 Forms a

Thiazoline Ring during Biogenesis of Yersiniabactin,
an Iron-Chelating Virulence Factor of Yersinia pestis.
[Erratum to document cited in CA129:241692]

AUTHOR(S): Gehring, Amy M.; Mori, Ichiro; Perry, Robert D.;
Walsh, Christopher T.
CORPORATE SOURCE: Department of Biological Chemistry and Molecular
Pharmacology, Harvard Medical School, Boston, MA,
02115, USA
SOURCE: Biochemistry (1998), 37(48), 17104
CODEN: BICHAW; ISSN: 0006-2960
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB On page 11649, in Table 3, bottom portion, the sequences appearing on
lines 1, 3, and 4 are incorrect; a corrected table is given.
IT 32854-09-4, Cystine dimethyl ester dihydrochloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(in (hydroxyphenylthiazolinylcarbonyl)cysteine synthesis (Erratum))
RN 32854-09-4 CAPLUS
CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

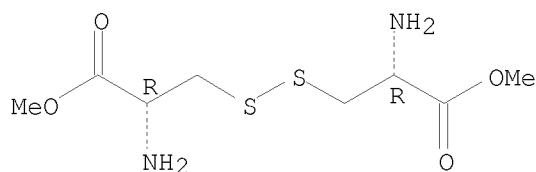
Absolute stereochemistry.



● 2 HCl

L5 ANSWER 3 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1998:542322 CAPLUS
DOCUMENT NUMBER: 129:276299
ORIGINAL REFERENCE NO.: 129:56345a,56348a
TITLE: Synthesis of conformationally constrained cyclic
peptides containing aromatic subunit
AUTHOR(S): Mu, LinJing; Cheng, JinPei; Huang, Hai; Lu, JianMing;
Hu, XuBo
CORPORATE SOURCE: Department of Chemistry, Nankai University, Tianjin,
300071, Peop. Rep. China
SOURCE: Synthetic Communications (1998), 28(16), 3091-3096
CODEN: SYNCAV; ISSN: 0039-7911
PUBLISHER: Marcel Dekker, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 129:276299
AB A series of sym. cyclic peptides which contain benzene and cystine were
synthesized by one-pot method. These compds. were selectively binding to
Ca²⁺ and Eu³⁺ cations and were good receptors for disodium 4-nitrophenyl
phosphate anion.
IT 22888-38-6, L-Cystine dimethyl ester hydrochloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of conformationally constrained cyclic peptides containing
aromatic
subunit)
RN 22888-38-6 CAPLUS
CN L-Cystine, dimethyl ester, hydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● x HCl

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 4 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1998:476942 CAPLUS

DOCUMENT NUMBER: 129:240142

ORIGINAL REFERENCE NO.: 129:48739a, 48742a

TITLE: New GnRH-like peptide construct to optimize efficient immunocastration of male pigs by immunoneutralization of GnRH

AUTHOR(S): Oonk, H. B.; Turkstra, J. A.; Schaaper, W. M. M.; Erkens, J. H. F.; Weerd, M. H. Schuitemaker-De; Van Nes, A.; Verheijden, J. H. M.; Meloen, R. H.

CORPORATE SOURCE: Department of Molecular Recognition ID-DLO Institute for Animal Science and Health, Lelystad, 8219 PH, Neth.

SOURCE: Vaccine (1998), 16(11/12), 1074-1082
CODEN: VACCDE; ISSN: 0264-410X

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Castration of male pigs is routinely performed to prevent the occurrence of boar taint in pig carcasses. However, boar taint can also be eliminated by immunol. castration using a synthetic peptide vaccine against GnRH. For pig farming, to make immunocastration a feasible alternative method to surgical castration, the composition of the vaccine has to be not only reliable and effective but also cost-efficient and safe. Previously the authors have developed an effective immunocastration vaccine by replacing the monomer GnRH by a much more immunogenic tandem peptide. However, this tandem-GnRH vaccine preparation needs Complete Freund's adjuvant and to be applied at a relatively high dose. Therefore, alternative antigens were designed to cope with this problem and tested with different adjuvants and dosages. An effective new antigen was designed based on a GnRH-tandem peptide, which was dimerized and modified in one amino acid position of the decapeptide to allow conjugation of this tandem-dimer to ovalbumin. In mild adjuvants and in low dosage, this antigen was very effective in reducing testis weight, serum LH and androstenone level in backfat. Thus, an improved immunocastration vaccine has been designed that is relatively cost-efficient and highly efficacious in two vaccinations at low dose.

IT 104282-73-7

RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)

(new GnRH-like peptide construct to optimize efficient immunocastration of male pigs by immunoneutralization of GnRH)

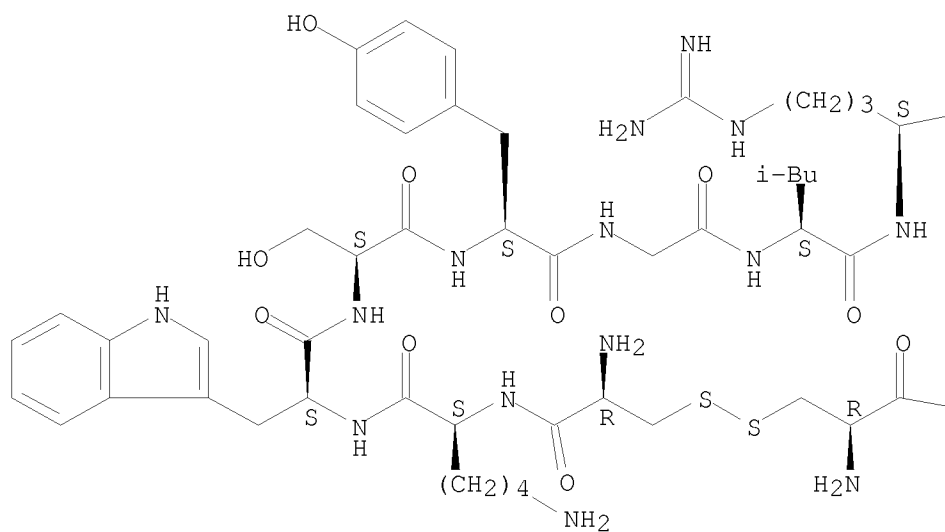
RN 104282-73-7 CAPLUS

CN Glycinamide, L-cysteinyl-L-lysyl-L-tryptophyl-L-seryl-L-tyrosylglycyl-L-

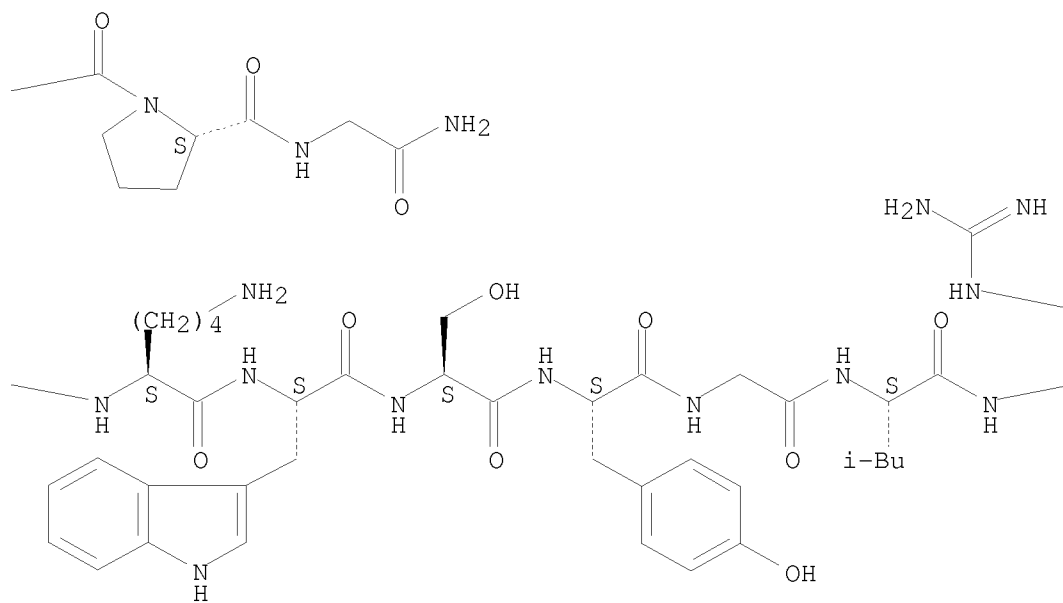
leucyl-L-arginyl-L-prolyl-, bimol. (1→1')-disulfide (9CI) (CA
INDEX NAME)

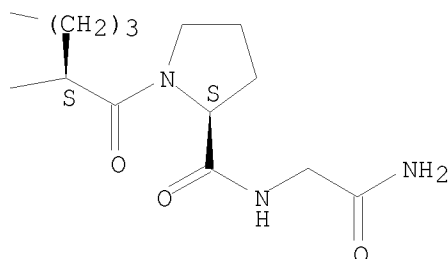
Absolute stereochemistry.

PAGE 1-A



PAGE 1-B





REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 5 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1998:475946 CAPLUS

DOCUMENT NUMBER: 129:241692

ORIGINAL REFERENCE NO.: 129:49119a,49122a

TITLE: The nonribosomal peptide synthetase HMWP2 forms a thiazoline ring during biogenesis of yersiniabactin, an iron-chelating virulence factor of *Yersinia pestis*
 AUTHOR(S): Gehring, Amy M.; Mori, Ichiro; Perry, Robert D.; Walsh, Christopher T.

CORPORATE SOURCE: Department of Biological Chemistry and Molecular Pharmacology, Harvard Medical School, Boston, MA, 02115, USA

SOURCE: Biochemistry (1998), 37(33), 11637-11650
 CODEN: BICHAW; ISSN: 0006-2960

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

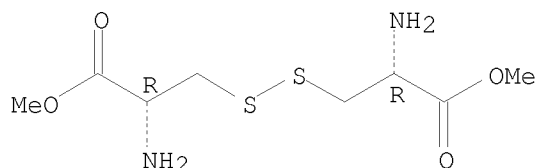
LANGUAGE: English

AB Pathogenic *Yersinia* species have been shown to synthesize a siderophore mol., yersiniabactin, as a virulence factor during iron starvation. Here we provide the first biochem. evidence for the role of the *Yersinia pestis* high-mol.-weight protein 2 (HMWP2), a nonribosomal peptide synthetase homolog, and YbtE in the initiation of yersiniabactin biosynthesis. YbtE catalyzes the adenylation of salicylate and the transfer of this activated salicyl group to the N-terminal aryl carrier protein domain (ArCP; residues 1-100) of HMWP2. A fragment of HMWP2, residues 1-1491, can adenylate cysteine and with the resulting cysteinyl-AMP autoaminoacylate the peptidyl carrier protein domain (PCP1; residues 1383-1491) either in cis or in trans. Catalytic release of hydroxyphenylthiazoline carboxylic acid (HPT-COOH) and/or N-(hydroxyphenylthiazolinylcarbonyl)cysteine (HPT-cys) is observed upon incubation of YbtE, HMWP2 1-1491, L-cysteine, salicylate, and ATP. These products presumably arise from nucleophilic attack by water or cysteine of a stoichiometric hydroxyphenylthiazolinylcarbonyl-S-PCP1-HMWP2 intermediate. Detection of the heterocyclization capacity of HMWP2 1-1491 implies salicyl-transferring and thiazoline-forming activity for the HMWP2 condensation domain (residues 101-544) and is the first demonstration of

such heterocyclization ability in a nonribosomal peptide synthetase enzyme.

IT 32854-09-4, Cystine dimethyl ester dihydrochloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(in (hydroxyphenylthiazolinylylcarbonyl)cysteine synthesis)
RN 32854-09-4 CAPLUS
CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

REFERENCE COUNT: 61 THERE ARE 61 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

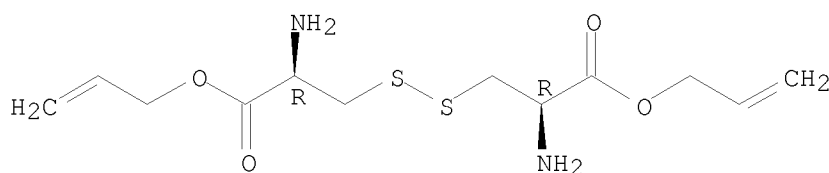
L5 ANSWER 6 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1998:431176 CAPLUS
DOCUMENT NUMBER: 129:203230
ORIGINAL REFERENCE NO.: 129:41287a, 41290a
TITLE: Chemoenzymic Synthesis of N-Ras Lipopeptides
AUTHOR(S): Naegele, Edgar; Schelhaas, Michael; Kuder, Norman; Waldmann, Herbert
CORPORATE SOURCE: Department of Organic Chemistry, University of Karlsruhe, Karlsruhe, D-76128, Germany
SOURCE: Journal of the American Chemical Society (1998), 120(28), 6889-6902
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 129:203230

AB For the study of biol. phenomena influenced by the plasma-membrane-bound Ras proteins and other lipidated proteins, characteristic peptides which embody the correct lipid modifications of their parent proteins (palmitoyl thioesters and farnesyl thioethers), as well as analogs thereof, may serve as suitable tools. For the construction of such acid- and base-labile peptide conjugates, the enzyme-labile p-acetoxybenzyloxycarbonyl (AcOZ) urethane blocking group was developed. The acetate moiety within the AcOZ group is easily saponified by treatment with acetyl esterase or lipase. After cleavage of the acetate group the resulting quinone methide spontaneously fragments, resulting in the liberation of the desired peptide or peptide conjugates. This enzymic protecting group technique formed the key step in the synthesis of the characteristic S-palmitoylated and S-farnesylated C-terminus of the human N-Ras protein. Deprotections are so mild that no undesired side reactions of the lipid conjugates are observed (i.e., no hydrolysis or β -elimination of the thioester and no acid-mediated attack on the double bonds of the farnesyl group). The combination of enzymic protecting group techniques with classical chemical methods allowed access to various fluorescent-labeled and differently lipid-modified Ras lipopeptides. Their application in biol. expts. enabled the study of the structural requirements for the acylation of Ras sequence motifs in vivo and gave insight into the subcellular site at which these modifications occur. The results indicate that the plasma

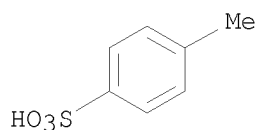
membrane is a major site of cellular S-acylation. This supports a mechanism for the selective subcellular localization of lipidated proteins, including the Ras proteins themselves, by kinetic targeting to the plasma membrane.

IT 142601-71-6
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (chemoenzymic synthesis of N-ras lipopeptides using enzyme-labile (acetyloxy)benzyloxycarbonyl protective groups)
 RN 142601-71-6 CAPLUS
 CN L-Cystine, 1,1'-di-2-propen-1-yl ester, 4-methylbenzenesulfonate (1:2)
 (CA INDEX NAME)
 CM 1
 CRN 142601-70-5
 CMF C12 H20 N2 O4 S2

Absolute stereochemistry.



CM 2
 CRN 104-15-4
 CMF C7 H8 O3 S



REFERENCE COUNT: 60 THERE ARE 60 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 7 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1998:359015 CAPLUS

DOCUMENT NUMBER: 129:122649

ORIGINAL REFERENCE NO.: 129:25133a,25136a

TITLE: A bis(crown-ether) analog of Troger's base: recognition of achiral and chiral primary bisammonium salts

AUTHOR(S): Hansson, Anna P.; Norrby, Per-Ola; Warnmark, Kenneth
 CORPORATE SOURCE: Org. Chem. I, Dep. Chem., Lund Univ., Lund, SE-221 00, Swed.

SOURCE: Tetrahedron Letters (1998), 39(25), 4565-4568
 CODEN: TELEAY; ISSN: 0040-4039

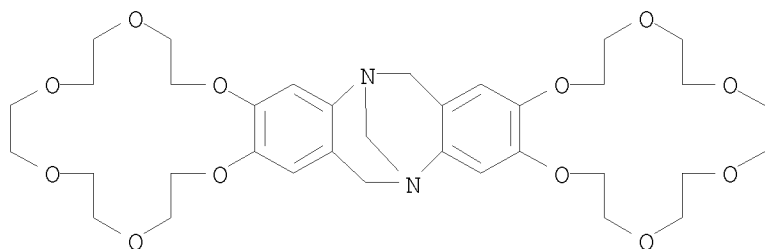
PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

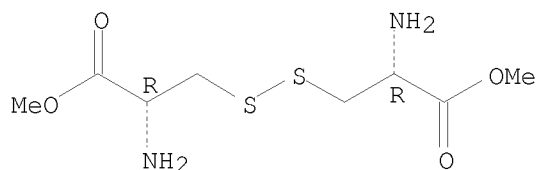
AB A C2-sym. bis(18-crown-6) analog (I) of Troger's base has been synthesized. Out of a series of achiral primary bisammonium salts, I binds heptane-1,7-diylbis(ammonium chloride) most strongly. Moderate enantioselective discrimination was observed in the complexation of L-cystine

di-Me ester dihydrochloride with rac-I.
 IT 210175-36-3P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and recognition of achiral and chiral primary bisammonium salts
 by a bis(crown-ether) analog of Troger's base)
 RN 210175-36-3 CAPLUS
 CN L-Cystine, dimethyl ester, compd. with
 2,3,5,6,8,9,11,12,14,15,22,23,25,26,28,29,31,32,34,35-eicosahydro-19H,39H-
 18,38-methanobis[1,4,7,10,13,16]benzohexaoxacyclooctadecino[18,19-
 b:18',19'-f][1,5]diazocine (1:1), dihydrochloride (9CI) (CA INDEX NAME)
 CM 1
 CRN 180305-04-8
 CMF C35 H50 N2 O12



CM 2
 CRN 1069-29-0
 CMF C8 H16 N2 O4 S2

Absolute stereochemistry.



REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 8 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1998:343261 CAPLUS

DOCUMENT NUMBER: 129:90354

ORIGINAL REFERENCE NO.: 129:18467a,18470a

TITLE: GR231118 (1229U91) and other analogs of the C-terminus of neuropeptide Y are potent neuropeptide Y Y1 receptor antagonists and neuropeptide Y Y4 receptor agonists

AUTHOR(S): Parker, Eric M.; Babi, Carol K.; Balasubramaniam, Ambikaipakan; Burrier, Robert E.; Guzzi, Mario; Hamud, Fozia; Mukhopadhyay, G.; Rudinski, Mark S.; Tao, Z.; Tice, Melissa; Xia, Ling; Mullins, Deborra E.; Salisbury, Brian G.

CORPORATE SOURCE: Department of Central Nervous System and Cardiovascular Research, Schering-Plough Research Institute, Kenilworth, NJ, 07033-0539, USA

SOURCE: European Journal of Pharmacology (1998), 349(1), 97-105
 CODEN: EJPHAZ; ISSN: 0014-2999
 PUBLISHER: Elsevier Science B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English

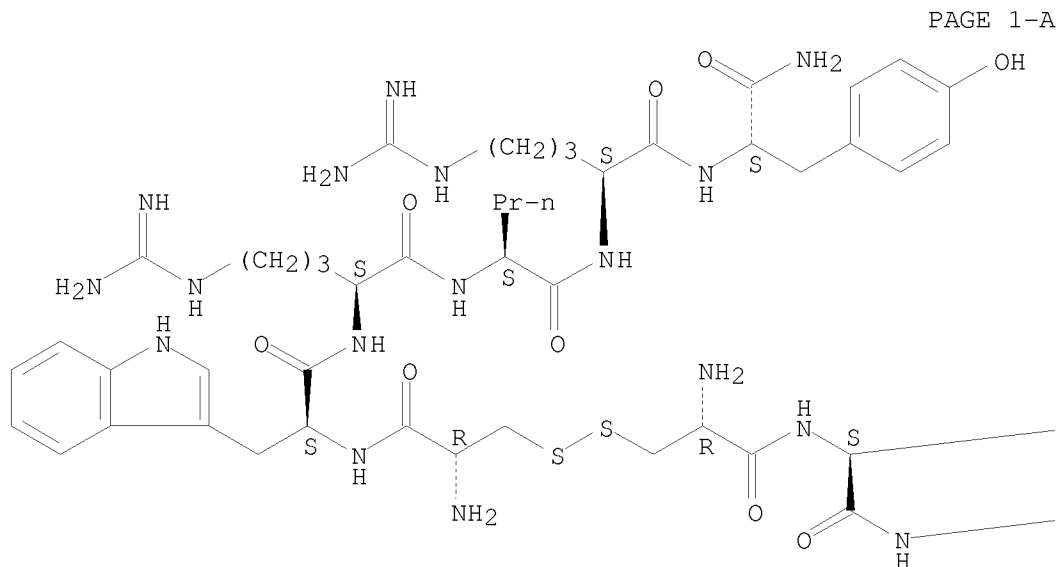
AB GR231118, BW1911U90, Bis(31/31') {[Cys31, Trp32, Nva34] neuropeptide Y(31-36)} (T-190) and [Trp-Arg-Nva-Arg-Tyr]2-NH2 (T-241) are peptide analogs of the C-terminus of neuropeptide Y that have recently been shown to be antagonists of the neuropeptide Y Y1 receptor. In this study, the activity of these peptides at each of the cloned neuropeptide Y receptor subtypes is determined in radioligand binding assays and in functional assays (inhibition of forskolin-stimulated cAMP formation). GR231118 is a potent antagonist at the human and rat neuropeptide Y Y1 receptors ($pA_2=10.5$ and 10.0 , resp.; $pK_i=10.2$ and 10.4 , resp.), a potent agonist at the human neuropeptide Y Y4 receptor ($pEC_{50}=8.6$; $pK_i=9.6$) and a weak agonist at the human and rat neuropeptide Y Y2 and Y5 receptors. GR231118 also has high affinity for the mouse neuropeptide Y Y6 receptor ($pK_i=8.8$). Therefore, GR231118 is a relatively selective neuropeptide Y Y1 receptor antagonist, but has appreciable activity at the neuropeptide Y Y4 and Y6 receptors as well. BW1911U90, T-190 and T-241 are moderately potent neuropeptide Y Y1 receptor antagonists ($pA_2=7.1$, 5.8 and 6.5 , resp.; $pK_i=8.3$, 6.5 and 6.8 , resp.) and neuropeptide Y Y4 receptor agonists ($pEC_{50}=6.8$, 6.3 and 6.6 , resp.; $pK_i=8.3$, 7.7 and 8.3 , resp.). These data suggest that the C-terminus of neuropeptide Y and related peptides is sufficient for activation of the neuropeptide Y Y4 receptor, but is not sufficient for activation of the neuropeptide Y Y1 receptor. Because BW1911U90, T-190 and T-241 are significantly less potent at the cloned human neuropeptide Y Y1 receptor than at the neuropeptide Y receptor in human erythroleukemia cells, these cells may express a novel neuropeptide Y receptor with high affinity for these peptides.

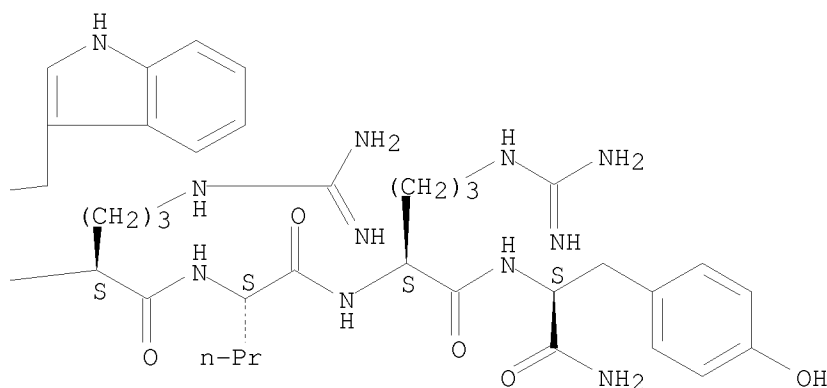
IT 172997-97-6
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
 (analogues of the C-terminus of neuropeptide Y are potent neuropeptide Y Y1 receptor antagonists and neuropeptide Y Y4 receptor agonists)

RN 172997-97-6 CAPLUS

CN L-Tyrosinamide, L-cysteinyl-L-tryptophyl-L-arginyl-L-norvalyl-L-arginyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.





REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 9 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1998:289345 CAPLUS

DOCUMENT NUMBER: 129:49609

ORIGINAL REFERENCE NO.: 129:10215a,10218a

TITLE: Elevation of endogenous nucleophiles in rat lung by cysteine and glutathione esters in vitro

AUTHOR(S): Hobbs, Michael J.; Williams, Nancy E.; Patel, Shailesh K.; Upshall, David G.

CORPORATE SOURCE: Medical Countermeasures Department, CBD, Salisbury,
SP4 0JQ, UK

SOURCE: Biochemical Pharmacology (1998), 55(10), 1573-1584
CODEN: BCPCA6; ISSN: 0006-2952

PUBLISHER: Elsevier Science Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB In this study, we have compared the uptake of L-cysteine (L-CySH), D-cysteine (D-CySH), L-cysteine iso-Pr ester (L-CIPE) and D-cysteine iso-Pr ester (D-CIPE) in rat lung slices and tracheal sections and determined the effectiveness of glutathione (GSH), GSH iso-Pr monoester, GSH iso-Pr diester, γ -glutamylcysteine (γ -glu-cys) iso-Pr monoester and γ -glu-cys iso-Pr diester to elevate and prolong intracellular GSH concns. in rat lung slices. Lung slices were incubated with 1.0 mM of thiol and the concns. determined intracellularly and extracellularly with time. Slices incubated with GSH, GSH iso-Pr diester and γ -glu-cys iso-Pr diester had cellular GSH concns. increased by up to 60%, 95% and 58%, resp., whereas GSH iso-Pr monoester and γ -glu-cys iso-Pr monoester did not increase the intracellular GSH concentration. Extracellularly, the GSH concentration had decreased by 15%, GSH iso-Pr diester by 27%, γ -glu-cys iso-Pr diester by 66% and both iso-Pr monoesters by over 90% at 120 min. Lung slices and tracheal sections incubated with L- or D-CySH at 37° had increased cellular concns. of L- and D-CySH which ranged between 0.88-1.25 nmol mg⁻¹ and 1.35-2.25 nmol mg⁻¹, resp. Reducing the incubation temperature to 4° had little effect on the accumulation of

D-CySH; however, L-CySH concns. increased progressively in the trachea and lung to reach 2.73 and 2.63 nmol mg⁻¹ at 90 min, resp. Lung slices incubated with L- or D-CIPE had increased L- or D-CySH concns. up to a max of 13.7 and 11.1 nmol mg⁻¹ and tracheal sections up to a max of 5.56 and 11.09 nmol mg⁻¹. In the lung slice medium, L- and D-CIPE levels had decreased by 75.2% and 74.0% at 90 min, resp., and from the tracheal section medium, L- and D-CIPE concns. had decreased by 66.7% and 32.7%, resp. Preincubation of lung slices and tracheal sections with the carboxylesterase inhibitor, bis (p-nitrophenyl) phosphate (BNPP), almost completely prevented the disappearance of L- and D-CIPE extracellularly and greatly reduced the appearance of cellular L- and D-CySH. GSH, GSH iso-Pr diester and γ -glu-cys iso-Pr diester elevated and prolonged GSH concns. in rat lung slices, but GSH iso-Pr monoester and γ -glu-cys iso-Pr monoester did not increase GSH levels. The uptake of L-CySH, but not D-CySH, is temperature sensitive in rat lung slices and tracheal sections and carboxylesterases appear to have a major influence on the uptake and metabolism of L- and D-CIPE by rat lung slices and tracheal sections.

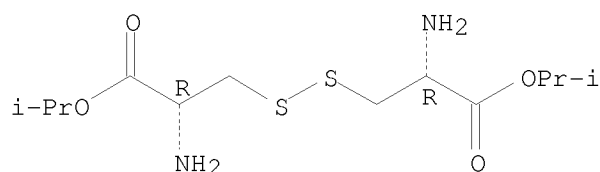
IT 71861-66-0

RL: RCT (Reactant); RACT (Reactant or reagent)
(elevation of endogenous nucleophiles in lung by cysteine and glutathione esters in vitro)

RN 71861-66-0 CAPLUS

CN L-Cystine, bis(1-methylethyl) ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 10 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1998:288985 CAPLUS

DOCUMENT NUMBER: 129:39121

ORIGINAL REFERENCE NO.: 129:8189a,8192a

TITLE: Leukotriene D4 and cystinyl-bis-glycine metabolism in membrane-bound dipeptidase-deficient mice

AUTHOR(S): Habib, Geetha M.; Shi, Zheng-Zheng; Cuevas, Allan A.; Guo, Qiuxia; Matzuk, Martin M.; Lieberman, Michael W.
CORPORATE SOURCE: Department of Pathology, Baylor College of Medicine, Houston, TX, 77030, USA

SOURCE: Proceedings of the National Academy of Sciences of the United States of America (1998), 95(9), 4859-4863
CODEN: PNASA6; ISSN: 0027-8424

PUBLISHER: National Academy of Sciences

DOCUMENT TYPE: Journal

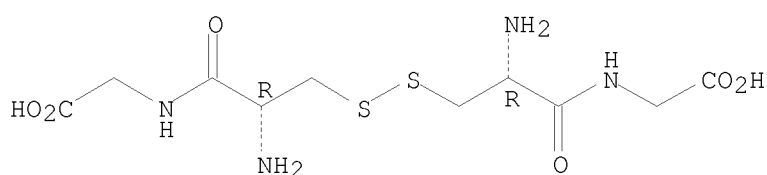
LANGUAGE: English

AB We have developed mice deficient in membrane-bound dipeptidase (MBD, EC 3.4.13.19), the enzyme believed to be responsible for the conversion of leukotriene D4 (LTD4) to leukotriene E4 (LTE4). The MBD mutation generated by us was demonstrated to be a null mutation by Northern blot anal. and the absence of β -lactamase activity in lung, kidney, small intestine, and heart. MBD gene deletion had no effect on viability or fertility. The mutant mice retain partial ability to convert LTD4 to LTE4, ranging from 80-90% of the wild-type values in small intestine and liver to 16% in kidney and 40% in lung, heart, and pancreas. MBD is also

believed to function consecutively after γ -glutamyl transpeptidase to cleave cystinyl-bis-glycine (cys-bis-gly) generated from glutathione cleavage. Our data indicate that kidney homogenates from MBD-deficient mice retain .apprx.40% of their ability to cleave cys-bis-gly, consistent with only modest elevations (3-5-fold) of cys-bis-gly in urine from MBD-deficient mice. These observations demonstrate that the conversion of LTD4 to LTE4 and the degradation of cys-bis-gly are catalyzed by at least two alternative pathways (one of which is MBD) that complement each other to varying extents in different tissues.

IT 7729-20-6
 RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
 (leukotriene D4 and cystinyl-bis-glycine metabolism in membrane-bound dipeptidase-deficient mice)
 RN 7729-20-6 CAPLUS
 CN Glycine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 11 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1998:275980 CAPLUS
 DOCUMENT NUMBER: 129:13331
 ORIGINAL REFERENCE NO.: 129:2791a,2794a
 TITLE: Interaction between peroxynitrite and L-cysteine: effects on rat aorta
 AUTHOR(S): Dowell, Fiona J.; Martin, William
 CORPORATE SOURCE: Clinical Research Initiative, University of Glasgow, Glasgow, G12 8QQ, UK
 SOURCE: European Journal of Pharmacology (1998), 344(2/3), 183-190
 CODEN: EJPHAZ; ISSN: 0014-2999
 PUBLISHER: Elsevier Science B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB In rings of rat aorta previously exposed to peroxynitrite (1 mM), L-cysteine and its analogs containing, but not those lacking, a thiol group produced a powerful transient relaxation. This relaxation is likely to result from the release of nitric oxide from a nitrated/nitrosated compound formed following reaction of peroxynitrite with a component of the tissue or bathing medium. Furthermore, when peroxynitrite was premixed with L-cysteine a new relaxant species was formed. Analogs of L-cysteine with a free thiol reacted with peroxynitrite to form species with similar relaxant potencies. Analogs lacking a thiol formed products with relaxant activity, but less than with L-cysteine. Analogs with a free amino but no thiol or carboxylic functions formed products with potencies similar to those lacking only the thiol. If the amino is substituted and the thiol removed, no relaxant activity was generated. Thus, peroxynitrite reacts with L-cysteine to form a novel relaxant whose activity derives mainly from formation of its S-nitrosothiol, with a lesser component perhaps from an N-nitroso derivative

IT 583-89-1, L-Cystine diethyl ester
 RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL

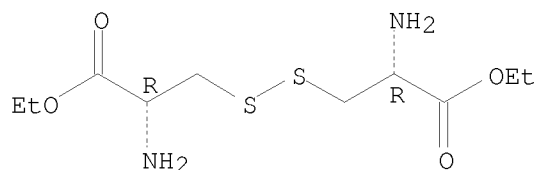
(Biological study); PROC (Process)

(interaction between peroxyxynitrite and cysteine and effects on rat aorta)

RN 583-89-1 CAPLUS

CN L-Cystine, 1,1'-diethyl ester (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 12 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1998:259729 CAPLUS

DOCUMENT NUMBER: 129:4849

ORIGINAL REFERENCE NO.: 129:1157a,1160a

TITLE: Synthesis of characteristic lipopeptides of lipid modified proteins employing the allyl ester as protecting group

AUTHOR(S): Schmittberger, Thierry; Cotte, Alain

CORPORATE SOURCE: Institut fur Organische Chemie, Universitat Karlsruhe, Karlsruhe, D-76128, Germany

SOURCE: Chemical Communications (Cambridge) (1998), (8), 937-938

CODEN: CHCOFS; ISSN: 1359-7345

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 129:4849

AB Lipidated peptides which represent characteristic lipid modified substructures of lipidated human GαO protein and the human N- and R-Ras proteins were built up efficiently by employing the selective Pd0-mediated removal of allyl esters under very mild conditions as the key step.

IT 142601-71-6

RL: RCT (Reactant); RACT (Reactant or reagent)

(synthesis of characteristic lipopeptides of lipid modified proteins employing allyl ester as protecting group)

RN 142601-71-6 CAPLUS

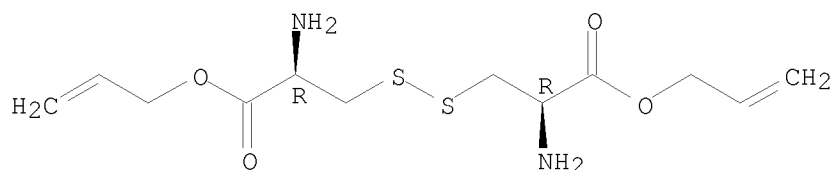
CN L-Cystine, 1,1'-di-2-propen-1-yl ester, 4-methylbenzenesulfonate (1:2) (CA INDEX NAME)

CM 1

CRN 142601-70-5

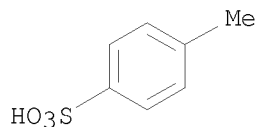
CMF C12 H20 N2 O4 S2

Absolute stereochemistry.



CM 2

CRN 104-15-4
CMF C7 H8 O3 S



REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 13 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1998:253171 CAPLUS

DOCUMENT NUMBER: 128:230657

ORIGINAL REFERENCE NO.: 128:45691a, 45694a

TITLE: Cystinophanes, a Novel Family of Aromatic-Bridged Cystine Cyclic Peptides: Synthesis, Crystal Structure, Molecular Recognition, and Conformational Studies

AUTHOR(S): Ranganathan, Darshan; Haridas, V.; Karle, Isabella L.

CORPORATE SOURCE: Biomolecular Research Unit, Regional Research Laboratory (CSIR), Trivandrum, 695019, India

SOURCE: Journal of the American Chemical Society (1998), 120(12), 2695-2702

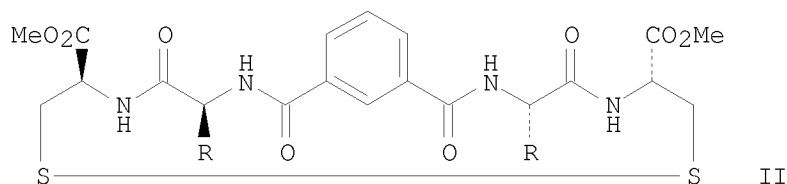
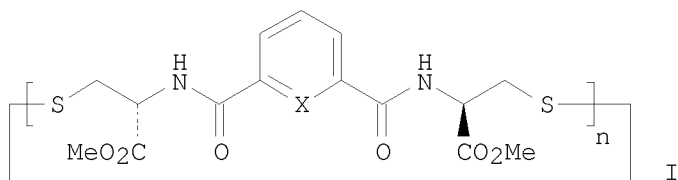
CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

GI

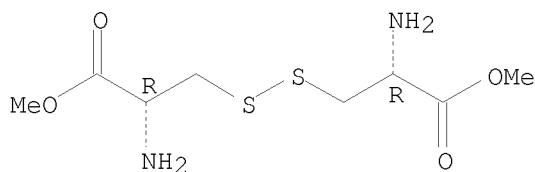


AB A novel family of aromatic-bridged cystine cyclic peptides (cystinophanes) I (X = CH, N; n = 2-4) and II (R = CH₂CHMe₂, CH₂Ph) has been synthesized by a single-step procedure involving condensation of 1,3 aromatic dicarbonyl dichlorides with either the simple L-cystine di-Me ester to provide cystinophanes I through 1+1, 2+2, and 3+3 cyclization, resp., or with cystine bis-dipeptides leading to 1+1 cystine-based peptidocyclophanes II. 1H NMR and CD studies have shown these cystinophanes to adopt a β -turn-like structure in solution X-ray crystal structure of I (X = CH,

n = 2) shows a collapsed ring conformation with a near parallel face-to-face orientation of aromatic rings, a feature also suggested by NMR studies. The propensity of cystinocyclophanes to adopt β -turn-type conformation is attributed to the presence of S-S linkage and the need to maintain a near orthogonal value of its torsion angle. The potential of cystinophanes to serve as artificial receptors in mol. recognition and host-guest complexation studies has been demonstrated with 26-membered, pyridine-bridged macrocycle I (X = N, n = 2) which binds (¹H NMR) to a number of α,ω -alkanedicarboxylic acids HO₂C(CH₂)_mCO₂H (m = 1- 4), and shows maximum affinity (K_{assoc} = 3.69 + 10² M⁻¹) and selectivity for glutaric acid (m = 3).

IT 32854-09-4, L-Cystine dimethyl ester dihydrochloride
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation, crystal structure, mol. recognition, and conformational studies of novel aromatic-bridged cystine cyclopeptides (cystinophanes))
 RN 32854-09-4 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

REFERENCE COUNT: 54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 14 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1998:18926 CAPLUS
 DOCUMENT NUMBER: 128:115207
 ORIGINAL REFERENCE NO.: 128:22601a,22604a
 TITLE: Redox chemistry of carbon-centered α -amino acid radicals
 AUTHOR(S): Jonsson, Mats; Kraatz, Heinz-Bernhard
 CORPORATE SOURCE: Steacie Inst. Mol. Sci., Natl. Res. Council Canada, Ottawa, ON, K1A 0R6, Can.
 SOURCE: Journal of the Chemical Society, Perkin Transactions 2: Physical Organic Chemistry (1997), (12), 2673-2676
 CODEN: JCPKBH; ISSN: 0300-9580
 PUBLISHER: Royal Society of Chemistry
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB One-electron oxidation potentials of the α -amino carbon-centered radicals of glutathione, glutathione di-Et ester hydrochloride, cysteine Et ester hydrochloride and cystine di-Me ester dihydrochloride in aqueous solution and N,N-dimethylglycine Et ester, Boc-Pro-OH, Boc-Leu-OH, and Boc-Gly-OH in acetonitrile are determined by photomodulation voltammetry. The potentials are -0.30, -0.27, -0.06, 0.05, -0.23, -0.40, -0.48 and -0.38 V vs. NHE, resp., under the present exptl. conditions. On the basis of these results and previously published results, the nature of α -amino acid and peptide radicals, glutathione in particular, is discussed.

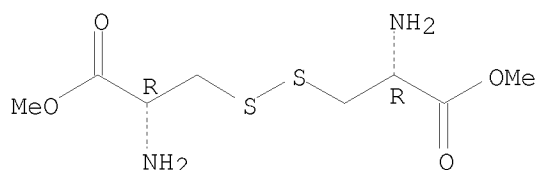
IT 32854-09-4, Cystine dimethyl ester dihydrochloride
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)

(redox chemical of carbon-centered α -amino acid radicals)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 15 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1998:6960 CAPLUS

DOCUMENT NUMBER: 128:74023

ORIGINAL REFERENCE NO.: 128:14451a,14454a

TITLE: MHC-peptide binding: dimers of cysteine-containing nonapeptides bind with high affinity to HLA-A2.1 class I molecules

AUTHOR(S): Di Modugno, Francesca; Mami, Caterina; Rosano, Laura; Rubiu, Oriana; Nistico, Paola; Chersi, Alberto

CORPORATE SOURCE: Laboratories of Biochemistry, Immunology, and Medical Physics, Istituto Regina Elena for Cancer Research, Rome, 00158, Italy

SOURCE: Journal of Immunotherapy (1997), 20(6), 431-436
CODEN: JOIMF8; ISSN: 1053-8550

PUBLISHER: Lippincott-Raven Publishers

DOCUMENT TYPE: Journal

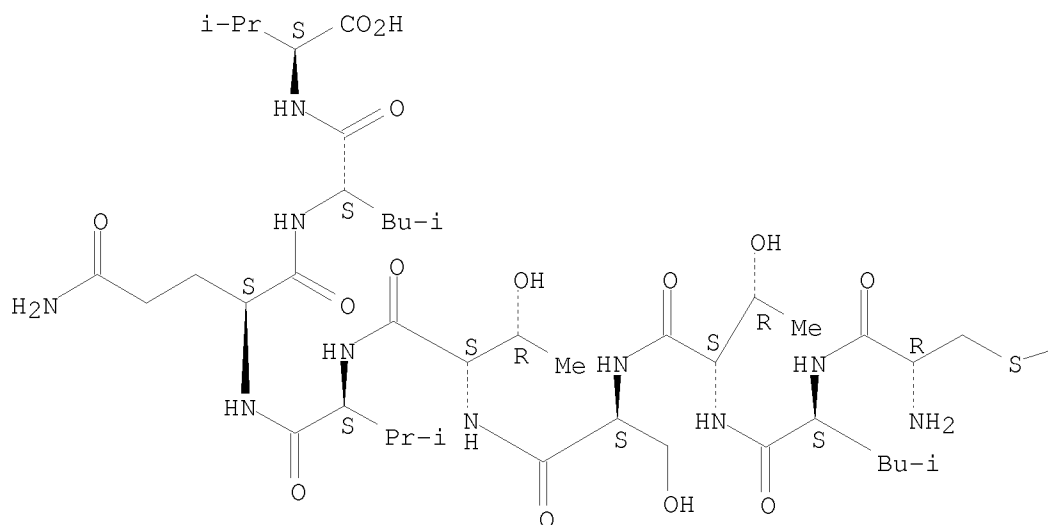
LANGUAGE: English

AB Small peptides, 8-10 amino acids long, derived from degradation of cytoplasmic proteins by CD8+ cytolytic T lymphocytes (CTLs) associated with major histocompatibility complex (MHC) class I mols. Recently synthetic peptides were used for the in vitro induction of tumor-specific CTLs, offering another strategy in the study of the immune-response repertoire and providing a new total in cancer vaccination and immunotherapy. Peptides derived from otherwise normal proteins, overexpressed in many tumors as products of the protooncogene, may represent a target for an immune response. This is the case of HER-2/neu gene (also known as ErbB-2), encoding a cysteine-rich glycoprotein transmembrane receptor with tyrosine kinase activity (gp185neu). Recent data, demonstrating that HLA-A2.1-related peptides are able to stimulate in vitro CD8+ lymphocytes, prompted us to study the binding to HLA-A2.1 mols. of several gp185 synthetic peptides containing a cysteine residue and to define the relevance of this amino acid residue in the reduced or oxidated form of the sulfhydryl group. We found that monomers and their homodimers, linked by a disulfide bridge, bind to HLA-A2.1 mols. with overlapping affinity. These results suggest that addnl. amino acids of the nonapeptide do not prevent the binding and the HLA refolding through chemical or sterical interactions. This might be of particular relevance for the in vivo processing of cysteine-rich proteins. Because ErbB-2 mols., as tumor-differentiation antigens in melanoma, are cysteine-rich mols., it may be relevant to evaluate the possible role of the cysteine residues interacting with the T-cell receptor. The recognition of these heterodimers by CD8+ lymphocytes will require functional in vivo studies.

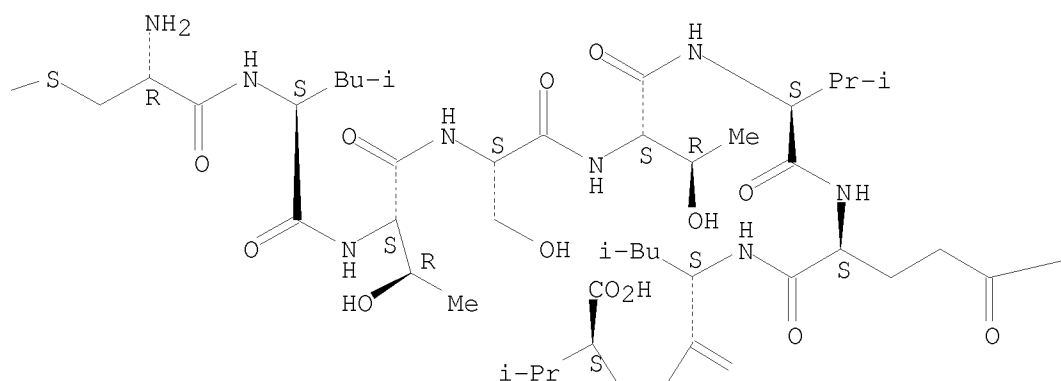
IT 200799-24-2
 RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
 (binding of cysteine-containing nonapeptides of gp185neu kinase to HLA-A2.1 mols. and their possible use in antitumor vaccines)
 RN 200799-24-2 CAPLUS
 CN L-Valine, L-cysteinyl-L-leucyl-L-threonyl-L-seryl-L-threonyl-L-valyl-L-glutamyl-L-leucyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



—NH₂

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REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 16 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1997:773109 CAPLUS

DOCUMENT NUMBER: 127:359117

ORIGINAL REFERENCE NO.: 127:70307a, 70310a

TITLE: Peptide fragment showing biological activity of insulin

INVENTOR(S): Dyumaev, Kirill M.; Knyazhev, Vladimir A.; Archakov, Aleksandr I.; Prozorovskij, Vladimir N.; Ipatova, Olga M.; Guseva, Mariya K.; Alekseeva, Aleksandra E.; Grebenshchikova, Olga G.; Maksimova, Elena M.; Kutsenko, Natalya G.

PATENT ASSIGNEE(S): Nauchno-Issledovatel'skij Institut Biomeditsinskij Khimii RAMN, Russia

SOURCE: Russ. From: Izobreteniya 1997, (13), 103.

CODEN: RUXXE7

DOCUMENT TYPE: Patent

LANGUAGE: Russian

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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RU 2078769	C1	19970510	RU 1995-114858	19950818
PRIORITY APPLN. INFO.:			RU 1995-114858	19950818

AB Title only translated.

IT 198479-32-2

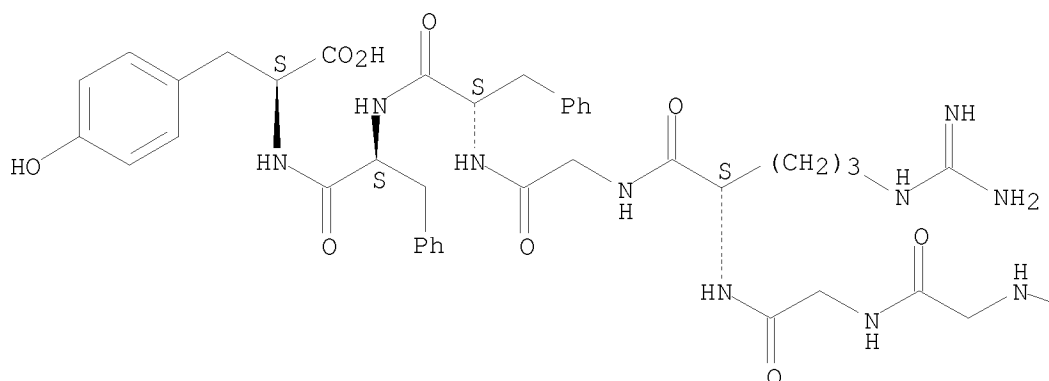
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)

(peptide fragment showing biol. activity of insulin)

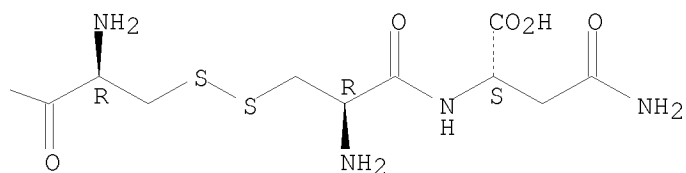
RN 198479-32-2 CAPLUS
 CN L-Tyrosine, L-cysteinylglycylglycyl-L-arginylglycyl-L-phenylalanyl-L-phenylalanyl-, (1→1')-disulfide with L-cysteinyl-L-asparagine (9CI)
 (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



L5 ANSWER 17 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1997:745500 CAPLUS
 DOCUMENT NUMBER: 128:99527
 ORIGINAL REFERENCE NO.: 128:19413a,19416a
 TITLE: Chemoenzymic synthesis of fluorescent N-Ras
 lipopeptides and their use in membrane localization
 studies in vivo
 AUTHOR(S): Waldmann, Herbert; Schelhaas, Michael; Nagele, Edgar;
 Kuhlmann, Jurgen; Wittinghofer, Alfred; Schroeder,
 Hans; Silviu, John R.
 CORPORATE SOURCE: Inst. Org. Chem., Univ. Richard-Willstätter-Allee,
 Karlsruhe, D-76128, Germany
 SOURCE: Angewandte Chemie, International Edition in English
 (1997), 36(20), 2238-2241
 CODEN: ACIEAY; ISSN: 0570-0833
 PUBLISHER: Wiley-VCH Verlag GmbH
 DOCUMENT TYPE: Journal
 LANGUAGE: English

OTHER SOURCE(S): CASREACT 128:99527

AB The authors report on an efficient method for the synthesis of fluorescent-labeled lipopeptides and on their application in the study of the specific membrane localization of lipopeptides and lipoproteins by means of membrane fusion/fluorescence microscopy and microinjection/confocal laser fluorescence microscopy.

IT 142601-70-5

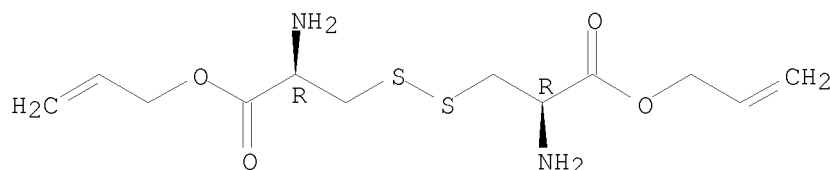
RL: RCT (Reactant); RACT (Reactant or reagent)

(chemoenzymic synthesis of fluorescent N-Ras lipopeptides and their use in membrane localization studies in vivo)

RN 142601-70-5 CAPLUS

CN L-Cystine, di-2-propenyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 18 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1997:723964 CAPLUS

DOCUMENT NUMBER: 127:319273

ORIGINAL REFERENCE NO.: 127:62580h,62581a

TITLE: Serine-Based Cyclodepsipeptides on an Adamantane Building Block: Design, Synthesis, and Characterization of a Novel Family of Macrocyclic Membrane Ion-Transporting Depsipeptides

AUTHOR(S): Ranganathan, Darshan; Haridas, V.; Madhusudanan, K. P.; Roy, Raja; Nagaraj, R.; John, G. B.

CORPORATE SOURCE: Biomolecular Research Unit, Regional Research Laboratory (CSIR), Trivandrum, 695019, India

SOURCE: Journal of the American Chemical Society (1997), 119(48), 11578-11584

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 127:319273

GI

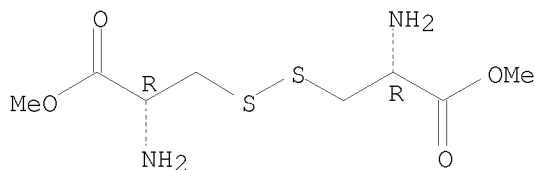
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB A simple two-step synthetic strategy provides a straightforward entry to a large variety of adamantane-containing serine-based cyclodepsipeptides. The design is flexible with respect to the choice of an amino acid, the ring size, and the nature of the template as illustrated here with the preparation of a large variety of serine-based macrocycles, for example, 18-membered simple cyclo(Adm-Ser)₂ (I), 24-membered macrocycles II (R = CHMe₂, CH₂CHMe₂; R₁ = OMe; R = CHMe₂, R₁ = Leu-OMe), a 21-membered S-S bridged cystine macrocycle, a pyridine-containing macrocycle, and a crown ether hybrid macrocycle that provide built-in handles (in the form of protected NH₂ and CO₂H groups) for attachment of suitable pendants leading to attractive models that may have multiple uses as membrane ionophores, scaffolds, or

templates in the design of artificial proteins and for studying the structure-function relationship in biol. receptors. This novel class of macrocyclic peptides are demonstrated to adopt β -turn type conformation and possess high efficiency in transporting Na^+ , Ca^{2+} , and Mg^{2+} ions across model membranes. Amongst the cyclodepsipeptides reported here, the 24-membered macrocycle II ($\text{R} = \text{CHMe}_2$, $\text{R}_1 = \text{Leu-OMe}$) was the most efficient ion-transporter in lipid bilayer membranes. Interestingly, no appreciable ion-transport was noticed by 18-membered cyclodepsipeptide I and by macrocycles possessing only one adamantane unit in their cyclic framework. These results show that a min. of two adamantane units in a 24-membered ring size appears to be the optimum requirement for efficient membrane ion transport.

IT 32854-09-4, Cystine dimethyl ester dihydrochloride
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (design, preparation, and characterization of macrocyclic membrane ion-transporting cyclodepsipeptides based on serine and adamantane building blocks)
 RN 32854-09-4 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.

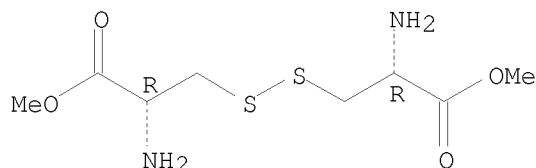


● 2 HCl

L5 ANSWER 19 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1997:714773 CAPLUS
 DOCUMENT NUMBER: 128:1828
 ORIGINAL REFERENCE NO.: 128:403a,406a
 TITLE: Interaction of silver nitrate with readily identifiable groups: relationship to the antibacterial action of silver ions
 AUTHOR(S): Liao, S. Y.; Read, D. C.; Pugh, W. J.; Furr, J. R.; Russell, A. D.
 CORPORATE SOURCE: Welsh School of Pharmacy, University of Wales Cardiff, Cardiff, CF1 3XF, UK
 SOURCE: Letters in Applied Microbiology (1997), 25(4), 279-283
 CODEN: LAMIE7; ISSN: 0266-8254
 PUBLISHER: Blackwell
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Microbiol. it was demonstrated that amino acids, e.g. cysteine (CySH), and other compds., e.g. sodium thioglycollate, which contain thiol groups neutralized the activity of silver nitrate against *Pseudomonas aeruginosa* PA01. Amino acids with disulfide bonds were inactive, with the exception of L-cystine di-Me ester, as were all amino acids with no sulfur groups. Iodoacetamide reacted with CySH to produce a CyS -acetamide complex that was unable to quench the activity of Ag^+ . Chemical analyses using cyclic voltammetry demonstrated that high coordination nos. (3.1) were obtained with thiol-containing amino acids and low nos. (0.28-0.4) with other amino acids. Both microbiol. and chemical, the results imply that interaction of Ag^+ with thiol groups plays an essential role in bacterial inactivation.

IT 1069-29-0, L-Cystine dimethyl ester
 RL: BUU (Biological use, unclassified); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
 (interaction of silver nitrate with thiol groups as related to the antibacterial action of silver ions)
 RN 1069-29-0 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 20 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1997:606743 CAPLUS

DOCUMENT NUMBER: 127:262308

ORIGINAL REFERENCE NO.: 127:51225a,51228a

TITLE: Rhenium-Catalyzed Oxidation of Thiols and Disulfides with Sulfoxides

AUTHOR(S): Arterburn, Jeffrey B.; Perry, Marc C.; Nelson, Sherry L.; Dible, Benjamin R.; Holguin, Mylena S.

CORPORATE SOURCE: Department of Chemistry and Biochemistry, New Mexico State University, Las Cruces, NM, 88003, USA

SOURCE: Journal of the American Chemical Society (1997), 119(39), 9309-9310

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 127:262308

AB Re(O)Cl3(PPh3)2 catalyzed oxidation of thiols and dithiols to disulfides by Me2SO. Re(O)Cl3(PPh3)2 also catalyzed oxidation of disulfides to thiosulfonates, e.g. MeSO2SMe.

IT 583-89-1P

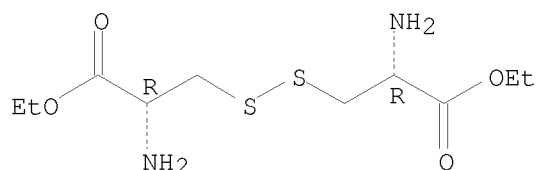
RL: SPN (Synthetic preparation); PREP (Preparation)

(rhenium-catalyzed oxidation of thiols and disulfides with sulfoxides)

RN 583-89-1 CAPLUS

CN L-Cystine, 1,1'-diethyl ester (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 66 THERE ARE 66 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 21 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1997:420035 CAPLUS

DOCUMENT NUMBER: 127:158247

ORIGINAL REFERENCE NO.: 127:30567a,30570a
 TITLE: An affinity column for phospholipase A2 based on immobilized acylaminophospholipid analogs
 AUTHOR(S): Dijkman, R.; Beiboer, S. H. W.; Verheij, H. M.
 CORPORATE SOURCE: Department of Enzymology and Protein Engineering, Centre for Biomembranes and Lipid Enzymology, Utrecht University, Utrecht, 3508 TB, Neth.
 SOURCE: Biochimica et Biophysica Acta, Lipids and Lipid Metabolism (1997), 1347(1), 1-8
 CODEN: BBLA6; ISSN: 0005-2760
 PUBLISHER: Elsevier B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English

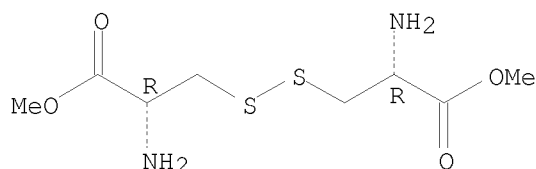
AB A synthetic route was developed to prepare 2-acylamino phospholipid analogs suitable for immobilization. The inhibitors, synthesized in either the (R)- and (S)-configuration, carried an ω -carboxyl group in one acyl chain for immobilization to the matrix. As a matrix Sepharose 6B, derivatized with a polar, non-charged 16 atom spacer was used. Low-mol. weight phospholipase A2 binds in a calcium-dependent way to the immobilized (S)-inhibitor and not to the immobilized (R)-inhibitor which shows that binding involves specific active site interactions rather than hydrophobic chromatog. The specificity was further demonstrated by the fact that the immobilized (S)-inhibitor binds porcine pancreatic and snake venom phospholipases A2, but not the porcine pancreatic zymogen. Moreover, a mutant porcine pancreatic phospholipase A2 in which the active side residue His48 has been replaced by Gln, was not bound by the column. This column material might be applicable for affinity purification of phospholipase A2 and for screening of phage display libraries.

IT 32854-09-4P 144000-36-2P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of affinity column for phospholipase A2 based on immobilized acylaminophospholipid analogs)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.

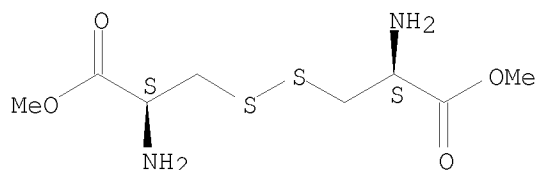


● 2 HCl

RN 144000-36-2 CAPLUS

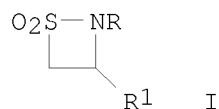
CN D-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 22 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1997:356312 CAPLUS
 DOCUMENT NUMBER: 127:95222
 ORIGINAL REFERENCE NO.: 127:18333a,18336a
 TITLE: Properties and reactions of substituted
 1,2-thiazetidine 1,1-dioxides.
 3-Acetoxy-1,2-thiazetidine 1,1-dioxide. Synthesis and
 reactions with C-nucleophiles
 AUTHOR(S): Schwenckraus, Peter; Merkle, Stefan; Otto, Hans
 Hartwig
 CORPORATE SOURCE: Institut Pharmazeutische/Medizinische Chemie,
 Ernst-Moritz-Arndt-Universitat, Greifswald, D-17487,
 Germany
 SOURCE: Liebigs Annalen/Recueil (1997), (6), 1261-1266
 CODEN: LIARFV
 PUBLISHER: Wiley-VCH
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 127:95222
 GI

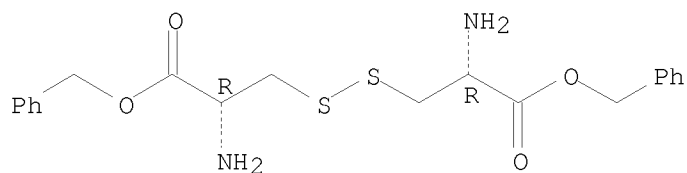


AB N-silylated 3-acetoxy-1,2-thiazetidine 1,1-dioxide I (R = SiMe₂CMe₃, R₁ = OAc) is prepared from L-cystine. Reactions of I (R = SiMe₂CMe₃, R₁ = OAc) with silyl enol ethers yield C(3)-substituted β -sultams I [R = SiMe₂CMe₃; R₁ = CH₂COC(:N₂)CO₂CH₂Ph, CMe₂Ac, (S)-CHMeCOR₂; R₂ = Ph, 3,4-(MeO)₂C₆H₄, Me]. Desilylation of I [R = SiMe₂CMe₃, R₁ = CH₂COC(:N₂)CO₂CH₂Ph] affords I [R = H, R₁ = CH₂COC(:N₂)CO₂CH₂Ph], which undergoes photochem. cyclization to give the bicyclic β -sultam I [RR₁ = COCH(CO₂CH₂Ph)CH₂]. In the course of such reactions, a portion of the C(3)-substituted β -sultam is consumed in a retro-Michael-type reaction, leading to the open-chained sulfonamides (E)-NH₂SO₂CH₂CH:CHCOCN₂CO₂CH₂Ph and (E)-Me₃CMe₂NHSO₂CH₂CH:CM₂Ac as side products. In the case of reactions between I (R = SiMe₂CMe₃, R₁ = OAc) and silyl enol ethers of cyclic ketones, only such open-chained products are isolated. Reactions of I (R = SiMe₂CMe₃, R₁ = OAc) with substituted malonates yield the β -sultams I [R = H; R₁ = C(CO₂Et)₂XPh; X = CH₂, S, SO, SO₂]. Structures and stereochem. are elucidated by spectroscopic methods.

IT 84697-17-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation acetoxythiazetidine dioxide and reaction with C-nucleophiles)

RN 84697-17-6 CAPLUS
CN L-Cystine, bis(phenylmethyl) ester, dihydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.



●2 HCl

L5 ANSWER 23 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1997:329254 CAPLUS

DOCUMENT NUMBER: 127:50994

ORIGINAL REFERENCE NO.: 127:9737a,9740a

TITLE: Peptide synthesis at high pressure. Activation volume of a peptide coupling. Synthesis of a glutathione derivative

AUTHOR(S): Klarner, Frank Gerrit; Kalthof, Ulrike; Gante, Joachim
CORPORATE SOURCE: Institut Organische Chemie, Universitat GH Essen, Essen, D-45117, Germany

SOURCE: Journal fuer Praktische Chemie/Chemiker-Zeitung (1997), 339(4), 359-364
CODEN: JPCCEM; ISSN: 0941-1216

PUBLISHER: Barth

DOCUMENT TYPE: Journal

LANGUAGE: English

AB From the pressure-induced rate enhancement the activation volume of the peptide coupling Bz-Ala-OMe with Na glycinate leading to the corresponding dipeptide was determined to be strongly neg. [$\Delta V_{\text{thermod.}} = -19.3 \text{ cm}^3 \text{ mol}^{-1}$ at 51.7° , MeOH]. This finding indicates that an association with the developing of charges proceeds in the rate-determining transition state. The pressure-induced peptide coupling was exploited to synthesize a derivative of glutathione (γ -Glu-Cys-Gly) starting from either glycine or glutamic acid.

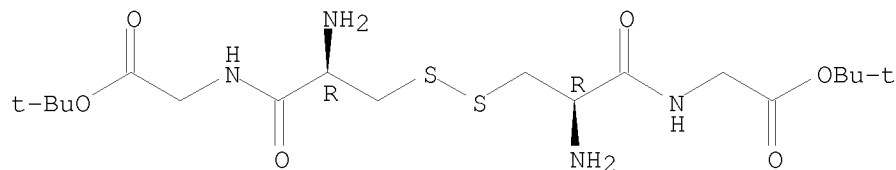
IT 191151-94-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of glutathione by peptide synthesis at high pressure)

RN 191151-94-7 CAPLUS

CN Glycine, L-cysteinyl-, 1,1-dimethylethyl ester, bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 24 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1997:328362 CAPLUS

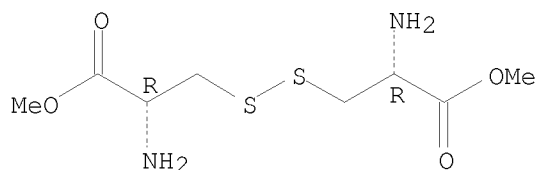
DOCUMENT NUMBER: 127:62181

ORIGINAL REFERENCE NO.: 127:11809a,11812a
 TITLE: Chemical modification of lyophilized proteins in nonaqueous environments
 AUTHOR(S): Taralp, Alpay; Kaplan, Harvey
 CORPORATE SOURCE: Department of Chemistry, University of Ottawa, Ottawa, ON, KIN 6N5, Can.
 SOURCE: Journal of Protein Chemistry (1997), 16(3), 183-193
 CODEN: JPCHD2; ISSN: 0277-8033
 PUBLISHER: Plenum
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Lyophilized proteins were reacted in vacuo with a volatile reagent or dispersed in octane and reacted with dissolved reagent. Three novel derivs. were formed with iodomethane: (a) quaternized tri-Me amino groups, (b) N1,N3-dimethylimidazolium cation, and (c) phenolic O-Me ether. Acid anhydrides acylated amino groups and formed mixed anhydrides with side-chain carboxyl groups. Under nonaq. conditions it was observed that: (i) The same derivs. are formed as under aqueous conditions. (Ii) Hydrolytic breakdown of protein is prevented. (Iii) Less reagent is required. (I.v.) Unreacted reagent can be recovered. (V) Water-labile derivs. can be isolated as stable intermediates. (Vi) The yield of a derivatized functional group was directly related to its pKa, its surface exposure, and the pH of the solution from which the protein was lyophilized. (Vii) The physicochem. factors governing the reactivity of protein functional groups in nonaq. environments appear to reflect the protein solution structure prior to lyophilization.

IT 32854-09-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (chemical modification of lyophilized proteins in nonaq. environments)
 RN 32854-09-4 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 25 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1997:316190 CAPLUS
 DOCUMENT NUMBER: 127:17932
 ORIGINAL REFERENCE NO.: 127:3629a,3632a
 TITLE: Promotional effects of metal polymer complexes on the hydrolysis of amino acid ester: A study with cobalt(II) and nickel(II) complexes
 AUTHOR(S): Ahmad, N.; Haque, M. A.; Ali, M. M.
 CORPORATE SOURCE: Dep. Chem., Rajshahi Univ., India
 SOURCE: Indian Journal of Chemistry, Section A: Inorganic, Bio-inorganic, Physical, Theoretical & Analytical Chemistry (1997), 36A(3), 228-231
 CODEN: ICACEC; ISSN: 0376-4710
 PUBLISHER: National Institute of Science Communication

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Aqua complexes of Co(II) and Ni(II) with a polymer involving glutamic acid and 1,2-ethane diol have been prepared and characterized. The kinetics of base hydrolysis of amino acid esters such as cystine di-Me ester dihydrochloride, glycine Me ester hydrochloride, methionine Me ester hydrochloride and tyrosine Me ester hydrochloride have been studied using pH-stat method. The rate of hydrolysis is influenced substantially by these complexes. It is found that metal polymeric complexes are catalytically about 100 times more efficient than the corresponding metal ions.

IT 32854-09-4, Cystine dimethyl ester dihydrochloride

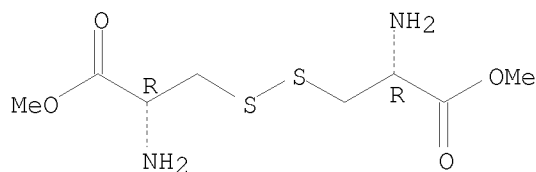
RL: PRP (Properties)

(promotional effects of metal polymer complexes on hydrolysis of amino acid esters)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 26 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1997:240136 CAPLUS

DOCUMENT NUMBER: 126:317653

ORIGINAL REFERENCE NO.: 126:61629a,61632a

TITLE: Galacturonic acid derivatives. Part 8. Synthesis of N-(D-galacturonoyl) amino acids and dipeptides

AUTHOR(S): Vogel, Christian; Jeschke, Udo; Kramer, Sven; Ott, Andrej Jakob

CORPORATE SOURCE: Fachbereich Chemie, Univ. Rostock, Rostock, D-18051, Germany

SOURCE: Liebigs Annalen/Recueil (1997), (4), 737-743

CODEN: LIARFV

PUBLISHER: VCH

DOCUMENT TYPE: Journal

LANGUAGE: English

AB D-Galacturonic acid derivatives, amide-linked to amino acids or dipeptides, were synthesized. These glyco-conjugates exhibit stability when the uronic acid residue is protected with isopropylidene and acetyl groups or is in its pyranoside form. The formation of the amide or peptide linkages was best achieved by the EDCI/HOBt coupling method. An alternative method employing 1,2,3,4-di-O-isopropylidene- α -D-galactopyranuronosyl chloride furnished only moderate yields of the conjugates. The use of NMR to detect racemization of the amino acid moiety is also discussed.

IT 22888-38-6

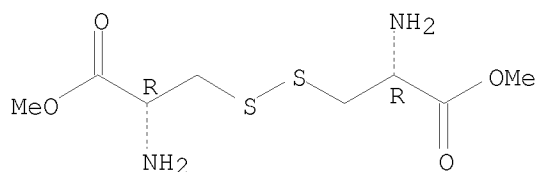
RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of N-(galacturonoyl) amino acids and dipeptides)

RN 22888-38-6 CAPLUS

CN L-Cystine, dimethyl ester, hydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● x HCl

L5 ANSWER 27 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1997:202159 CAPLUS

DOCUMENT NUMBER: 126:302769

ORIGINAL REFERENCE NO.: 126:58545a,58548a

TITLE: DNA recognition by Zn[CysteinyI-His-OMe]2: a minimal zinc finger docking unit

AUTHOR(S): Ranganathan, Subramania; Jayaraman, Narayanaswamy; Chatterji, Dipankar

CORPORATE SOURCE: Department of Chemistry, Indian Institute of Technology, Kanpur, 208 016, India

SOURCE: Biopolymers (1997), 41(4), 407-418

CODEN: BIPMAA; ISSN: 0006-3525

PUBLISHER: Wiley

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Zinc fingers, 30-residue peptides anchored on Zn(II) coordinated to pairs of cysteines and histidines, recognize DNA triplets and, as tandem modules, effect sequence read out. The focus of zinc finger-DNA interaction studies thus far has been to probe the nature of the binding of the 12-residue recognition element of the finger with DNA code bases. To understand the possible role of the Zn(II) ligand and to assess its own DNA interaction profile, [(CH)2Zn] (C: cysteine; H: histidine) was constructed from bis- tBoc-cystinyl-di-His-OMe via thiol-disulfide exchange, Zn(II) complexation, and deprotection. [(CH)2Zn] binds with polyd(G · C) · polyd(G · C) with association consts. $1.8 \times 10^7 \text{ M}^{-1}$ (specific DNA-phosphate) and $3.3 \times 10^3 \text{ M}^{-1}$ (nonspecific DNA-phosphate); perturbs its B-DNA profile; and enhances the T_m from 62.5 to 70.15° in a concentration-independent manner, with an ideal reversal profile on cooling, not observed in the DNA alone; releases polyd(G · C) · polyd(G · C)-bound ethidium bromide; enhances the fluorescence of polyd(G · C) · polyd(G · C)-bound ethidium bromide at low concns.; and quenches it at higher ranges. [(CH)2Zn] also binds to d(ACGCTGGGCGT), the sequence associated with Zif-268, 3-finger binding site. Such interactions were not seen in parallel studies with (a) polyd(A · T) · polyd(A · T) and [(CH)2Zn] and (b) {[C'H2]} (C': cystine; H: histidine; the direct metal-free precursor of [(CH)2Zn]), ionic zinc nitrate, and covalent zinc acetyl acetate Zn(AcAc)2, with poly[d(G · C) · polyd(G · C)]. The results are rationalized on the basis of two types of association between [(CH)2Zn] and polyd(G · C) · polyd(G · C), a nonspecific recognition of the sugar phosphate backbone, by an imidazole of [(CH)2Zn] and a specific one involving the amino group of [(CH)2Zn] and the guanine base of DNA. Control expts. show that the latter greatly promotes DNA recognition. The possibility for such specific interactions with relatively small structures of the type [(CH)2Zn] would be use in the design of DNA recognition elements and also provide an explanation for the exptl. found variation in the placement of

the zinc finger docking unit around the major groove of DNA.

IT 189197-36-2

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent)

(DNA recognition by Zn[CysteinyI-His-OMe]2, minimal zinc finger docking unit)

RN 189197-36-2 CAPLUS

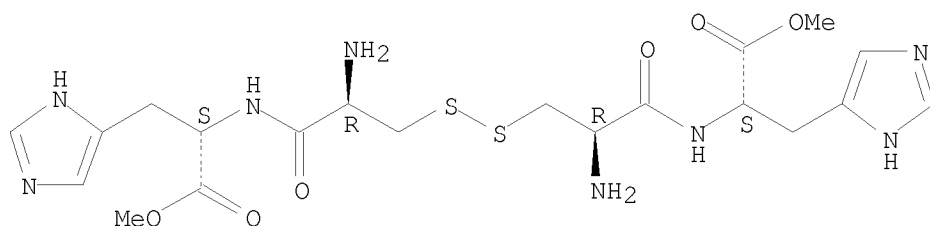
CN L-Histidine, L-cysteinyl-, methyl ester, bimol. (1→1')-disulfide, diacetate (9CI) (CA INDEX NAME)

CM 1

CRN 189197-35-1

CMF C20 H30 N8 O6 S2

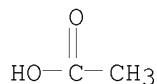
Absolute stereochemistry.



CM 2

CRN 64-19-7

CMF C2 H4 O2



L5 ANSWER 28 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1997:188359 CAPLUS

DOCUMENT NUMBER: 126:300995

ORIGINAL REFERENCE NO.: 126:58133a,58136a

TITLE: Zinc complexes of amino acids and peptides. Part 10. On the role of structural zinc in bis(cysteinyI) protein sequences

AUTHOR(S): Meissner, Axel; Haehnel, Wolfgang; Vahrenkamp, Heinrich

CORPORATE SOURCE: Institut Anorganische Analytische Chemie, Universitaet Freiburg, Freiburg, D-79104, Germany

SOURCE: Chemistry--A European Journal (1997), 3(2), 261-267 CODEN: CEUJED; ISSN: 0947-6539

PUBLISHER: VCH

DOCUMENT TYPE: Journal

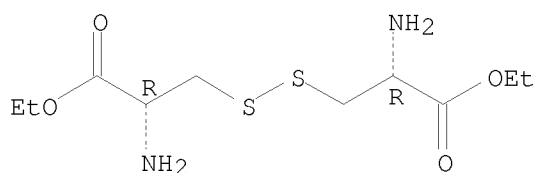
LANGUAGE: English

AB It is not always obvious whether Zn-binding proteins are preorganized for the incorporation of the metal or whether the Zn ion provides the structure-directing power and stability for the observed peptide conformations. To address the coordination chemical aspects of this question, Zn complexes of small model peptides were prepared and their structures determined in solution by 2-dimensional NMR spectroscopy. The peptides

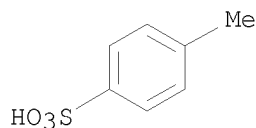
chosen were of the terminally protected bis(cysteinylyl) type: Cys-Cys, Cys-Gly-Cys, Cys-Phe-Cys, and Cys-Gly-Ile-Cys. The Zn ions fold these peptides into structures that can be superimposed on those of the natural proteins.

IT 95839-38-6
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (for preparation of zinc bis(cysteinylyl) peptide complex as model for protein folding)
 RN 95839-38-6 CAPLUS
 CN L-Cystine, diethyl ester, bis(4-methylbenzenesulfonate) (9CI) (CA INDEX NAME)
 CM 1
 CRN 583-89-1
 CMF C10 H20 N2 O4 S2

Absolute stereochemistry.



CM 2
 CRN 104-15-4
 CMF C7 H8 O3 S



REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 29 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1997:165250 CAPLUS
 DOCUMENT NUMBER: 126:154826
 ORIGINAL REFERENCE NO.: 126:29875a,29878a
 TITLE: Functional surrogates of analytes of interest and methods of obtaining and using same
 INVENTOR(S): Lee-Own, F. Victor; Carter, John Mark
 PATENT ASSIGNEE(S): Cytogen Corporation, USA
 SOURCE: PCT Int. Appl., 154 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9641172	A1	19961219	WO 1996-US10498	19960607
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE,				

ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS,
LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD,
SE, SG

RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR,
IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN

AU 9662826 A 19961230 AU 1996-62826 19960607

PRIORITY APPLN. INFO.: US 1995-476375 A 19950607

WO 1996-US10498 W 19960607

AB Functional surrogates are disclosed which serve as mimics of naturally occurring mols., such as analytes of interest present in a given sample. In particular, functional surrogates (including epitopes and mimetopes) of macromol. moieties, including large to medium-sized proteins, are described. The functional surrogates of the present invention are useful in a variety of diagnostic, prophylactic, and therapeutic applications. Indeed, where the detection of a macromol. moiety is hampered by its size, a functional surrogate of the present invention, serving as the mimic of the macromol. moiety, may be better suited for a given diagnostic assay. Methods of obtaining functional surrogates, various methods of their use, and compns., including kits, are also described. Accordingly, certain binding peptides, including those of a well-defined sequence, have been discovered, which can be used in a number of affinity assays, including those utilizing fluorescence polarization immunoassay (FPIA), enzyme multiplied immunoassay technique (EMIT), or cloned enzyme donor immunoassays (CEDIA), to name a few.

IT 186743-91-9DP, biotinylated deriv 186743-91-9P

RL: ARG (Analytical reagent use); BPR (Biological process); BSU
(Biological study, unclassified); SPN (Synthetic preparation); ANST
(Analytical study); BIOL (Biological study); PREP (Preparation); PROC
(Process); USES (Uses)

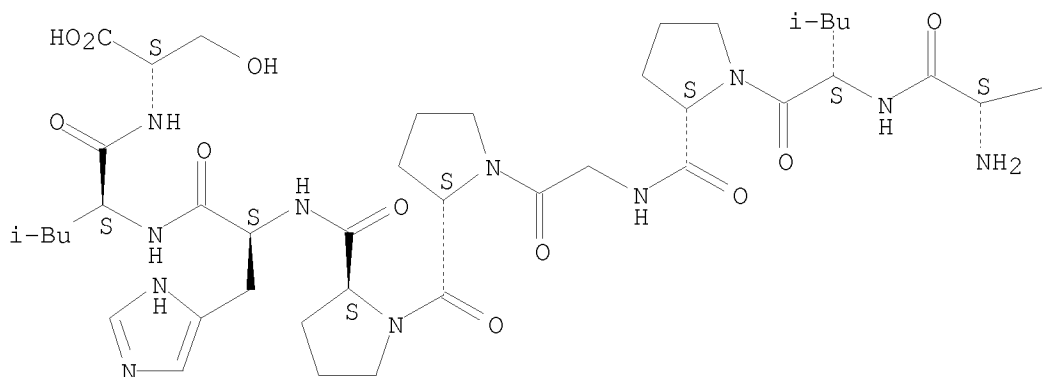
(functional surrogates of analytes for affinity assays including
immunoassays)

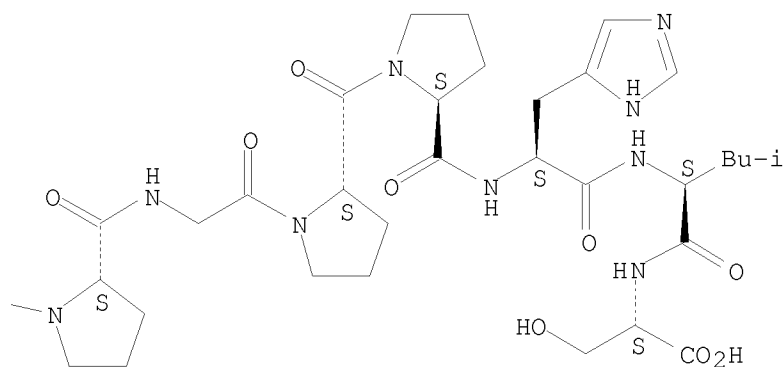
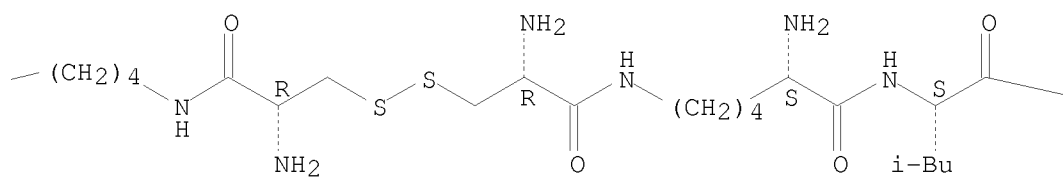
RN 186743-91-9 CAPLUS

CN L-Serine, N6-L-cysteinyl-L-lysyl-L-leucyl-L-prolylglycyl-L-prolyl-L-prolyl-
L-histidyl-L-leucyl-, bimol. (1-1')-disulfide (9CI) (CA INDEX
NAME)

Absolute stereochemistry.

PAGE 1-A

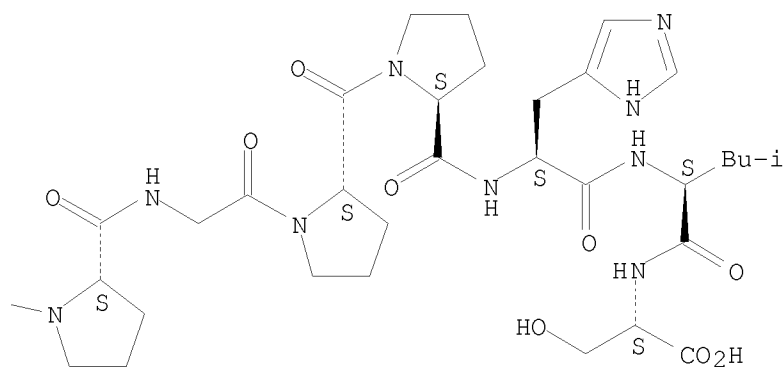
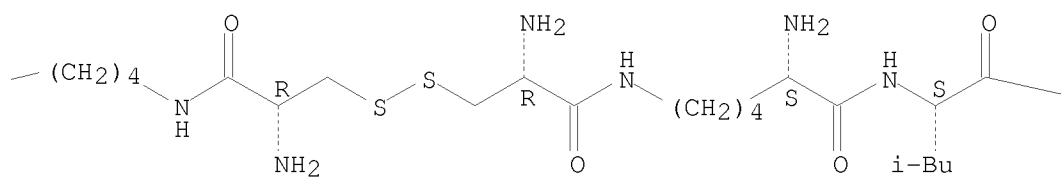
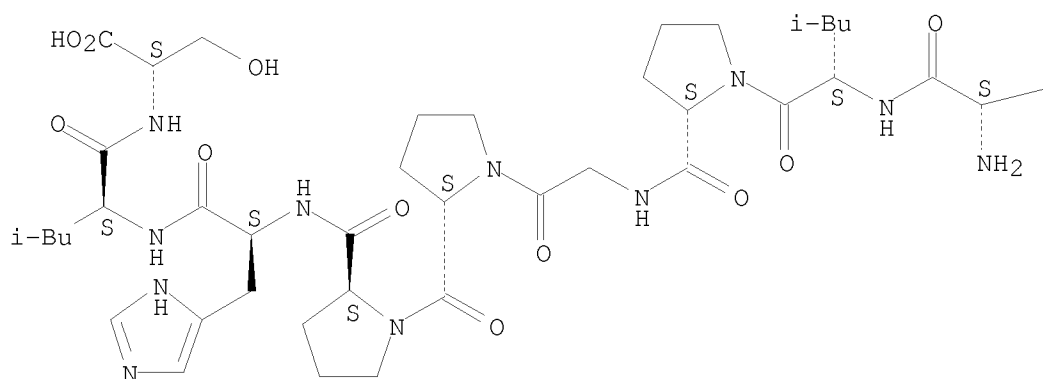




RN 186743-91-9 CAPLUS

CN L-Serine, N6-L-cysteinyl-L-lysyl-L-leucyl-L-prolylglycyl-L-prolyl-L-prolyl-L-histidyl-L-leucyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 30 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1997:134507 CAPLUS
 DOCUMENT NUMBER: 126:150425
 ORIGINAL REFERENCE NO.: 126:28981a,28984a
 TITLE: Silver halide photographic material
 INVENTOR(S): Hanyu, Takeshi
 PATENT ASSIGNEE(S): Konishiroku Photo Ind, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 26 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08314045	A	19961129	JP 1995-118250	19950517
PRIORITY APPLN. INFO.:			JP 1995-118250	19950517

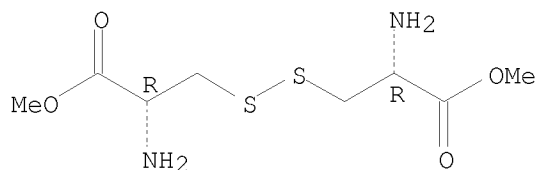
AB The photog. material comprising Ag halide emulsion layers and a protective layer on a support, has a component layer containing a cystine compound or at least one emulsion layer whose Ag halide grains are formed and chemical sensitized in the presence of a cystine compound This photog. material is suitable for use in X ray photog. and platemaking.

IT 1069-29-0
 RL: DEV (Device component use); USES (Uses)
 (photog. material from)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



=> d 15 ibib abs hitstr 31-60

L5 ANSWER 31 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1997:26168 CAPLUS
 DOCUMENT NUMBER: 126:46051
 ORIGINAL REFERENCE NO.: 126:9065a,9068a
 TITLE: Synthetic Peptides from Mouse Fc Receptor
 (MoFcγRII) That Alter the Binding of IgG to
 MoFcγRII
 AUTHOR(S): Goldsmith, Edie C.; Erickson, Bruce W.; Thompson,
 Nancy L.
 CORPORATE SOURCE: Department of Chemistry, University of North Carolina,
 Chapel Hill, NC, 27599-3290, USA
 SOURCE: Biochemistry (1997), 36(4), 952-959
 CODEN: BICHAW; ISSN: 0006-2960
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Fc receptors are transmembrane proteins, found on the surfaces of immune cells, that aid in the removal of foreign pathogens by binding to antibody-coated targets via the Fc regions of the antibodies. Using

peptides synthesized on pins, overlapping dodecapeptides (170) were synthesized to cover the extracellular region of the mouse Fc receptor for IgG, moFcγRII. The peptides were screened for antibody binding activity by using multivalent immune complexes composed of anti-dinitrophenyl monoclonal mouse IgG1 (ANO6) and dinitrophenyl conjugated to human serum albumin (DNP-HSA). Assays were also carried out with an anti-moFcγRII monoclonal rat IgG (2.4G2). The peptides that interacted with these antibodies prompted the synthesis of two soluble peptides: peptide A [FcγRII-(108-119), RCHSWRNKLLNRamide] and peptide B [FcγRII-(153-165), CKGSLGRTLHQSKamide]. Monomeric S-alkylated (A, B), homodimeric (AA, BB), heterodimeric (AB), and scrambled homodimeric (CC, DD) forms of these peptides were synthesized and examined for their ability to inhibit immune-complex binding to immobilized soluble FcγRII. Peptides AA and CC completely inhibited immune-complex binding while each of the other peptides partially inhibited binding (AB, 80%; A, 80%; BB, 65%; DD, 64%; B, 52%). The pair of monomeric moFcγRII peptides and the set of five dimeric peptides showed the same increase in binding inhibition with increasing net pos. charge per residue. These results suggest that the Fc region of IgG binds to the solvent-exposed B/C and F/G loops of the moFcγRII receptor through predominantly electrostatic forces.

IT 184578-50-5P 184578-53-8P

RL: BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)

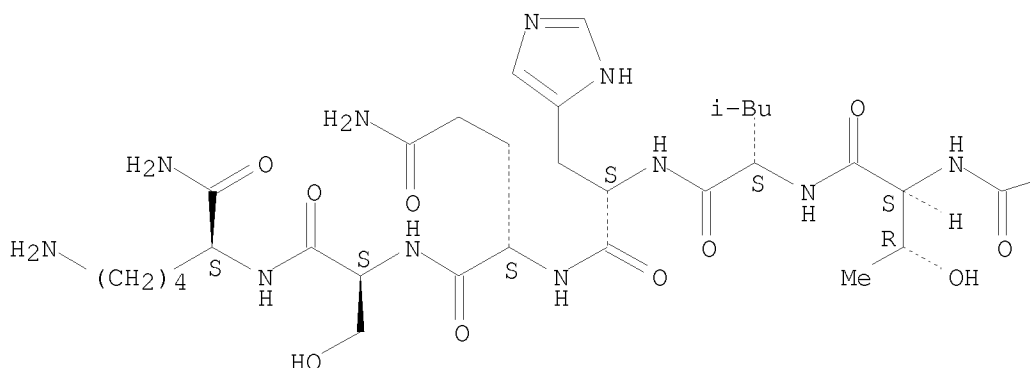
(synthetic peptides from mouse Fc receptor (MoFcγRII) that alter the binding of IgG to MoFcγRII)

RN 184578-50-5 CAPLUS

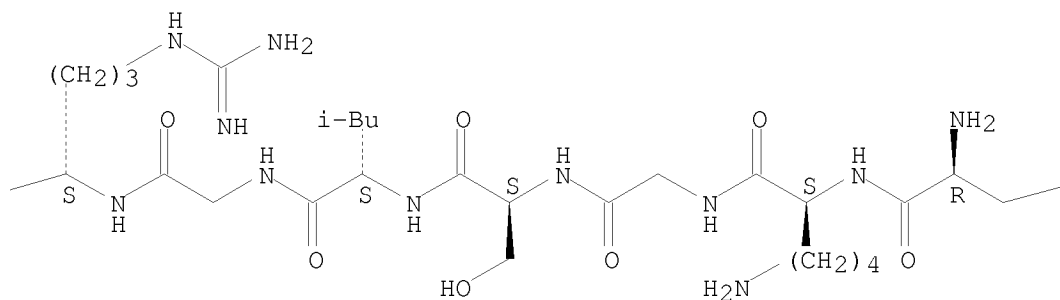
CN L-Lysinamide, L-cysteinyl-L-lysylglycyl-L-seryl-L-leucylglycyl-L-arginyl-L-threonyl-L-leucyl-L-histidyl-L-glutaminyl-L-seryl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

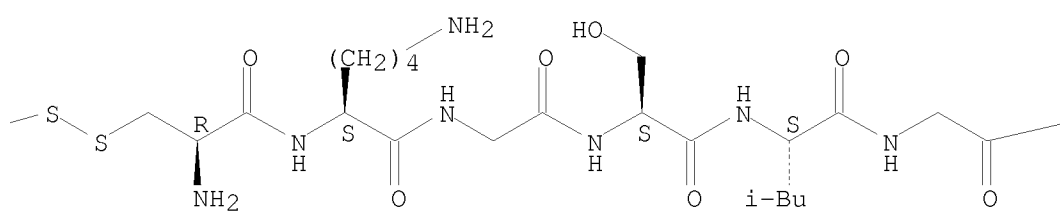
PAGE 1-A



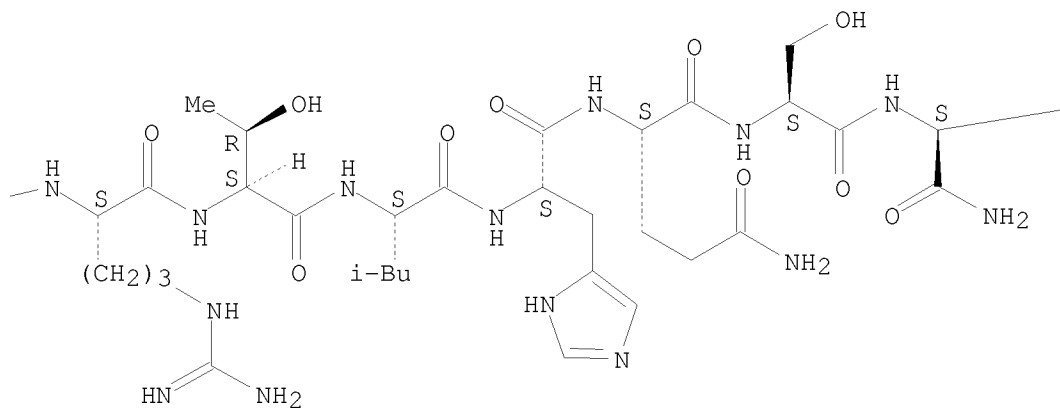
PAGE 1-B



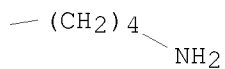
PAGE 1-C



PAGE 1-D

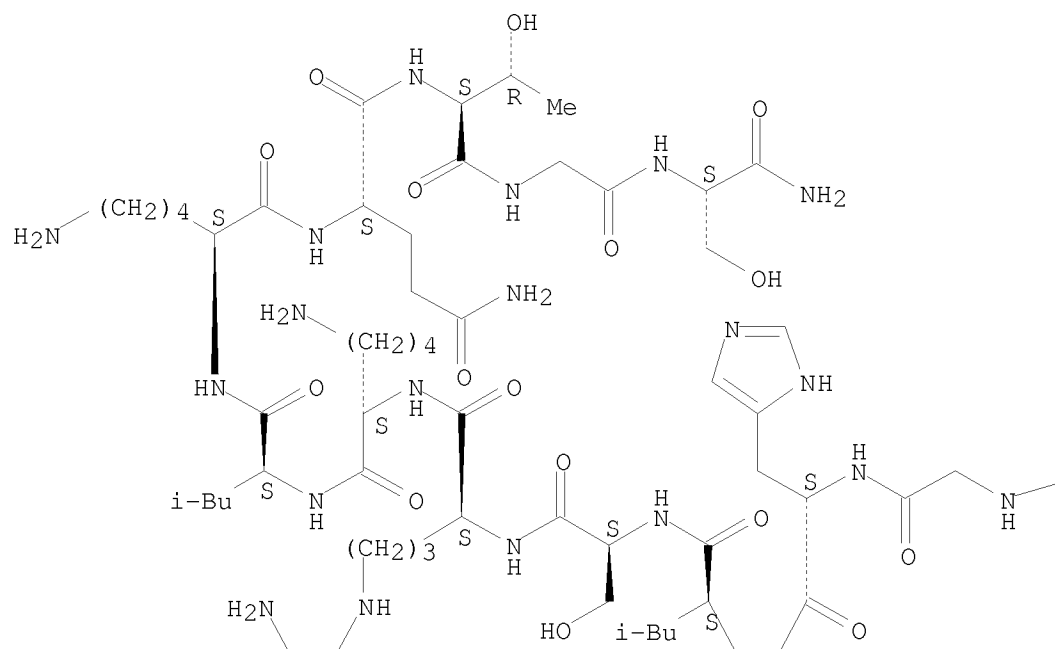


PAGE 1-E

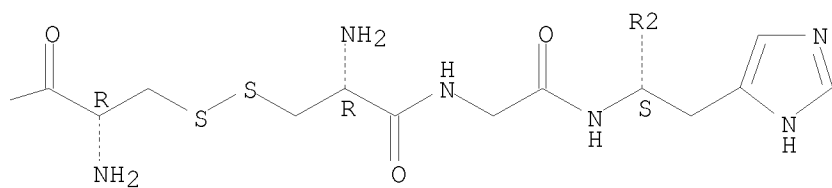


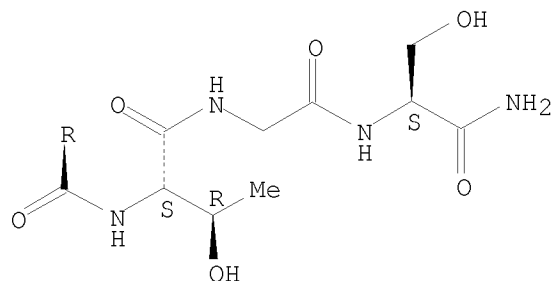
RN 184578-53-8 CAPLUS
 CN L-Serinamide, L-cysteinylglycyl-L-histidyl-L-leucyl-L-seryl-L-arginyl-L-lysyl-L-leucyl-L-lysyl-L-glutamyl-L-threonylglycyl-, bimol.
 (1→1')-disulfide (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B





L5 ANSWER 32 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1996:744299 CAPLUS
DOCUMENT NUMBER: 126:59784
ORIGINAL REFERENCE NO.: 126:11741a,11744a
TITLE: Absolute Configuration and Total Synthesis of
(+)-Curacin A, an Antiproliferative Agent from the
Cyanobacterium *Lyngbya majuscula*
AUTHOR(S): White, James D.; Kim, Tae-Seong; Nambu, Mitch
CORPORATE SOURCE: Department of Chemistry, Oregon State University,
Corvallis, OR, 97331-4003, USA
SOURCE: Journal of the American Chemical Society (1997),
119(1), 103-111
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

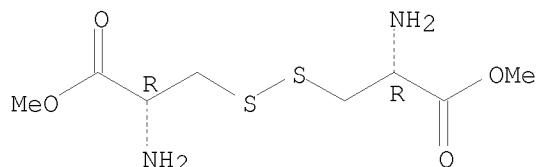
AB The absolute configuration of curacin A (I) was determined as (2R,13R,19R,21S)-1 by comparison of degradation products II and (S)-MeCH₂CH₂CH(OMe)CH₂CH₂COMe with the same materials prepared by asym. synthesis. The total synthesis of I was completed from (1R,2S)-2-methylcyclopropanecarboxylic acid and the amino alc. derivative III (X = O; R = Ms). The latter was prepared from 4-pentynal and the Garner aldehyde. Asym. allylation of 4-pentynal followed by methylation of the derived alc. gave (R)-H₂C=CHCH₂CH₂CH(OMe)CH₂CH₂C.tplbond.CH, which was subjected to zirconation-iodination to yield (R,E)-H₂C=CHCH₂CH₂CH(OMe)CH₂CH₂C(Me)=CHI (IV). IV was coupled to the vinyl boronate, prepared from 4-pentynyl acetate and catecholboron, in the presence of Pd(0), and the resultant trienol (R,E,E)-H₂C=CHCH₂CH₂CH(OMe)CH₂CH₂C(Me)=CHCH=CHCH₂CH₂CH₂OH was converted to phosphonium iodide (R,E,E)-H₂C=CHCH₂CH₂CH(OMe)CH₂CH₂C(Me)=CHCH=CHCH₂CH₂CH₂P+Ph₃I- (V). Wittig reaction of the ylide from V with Garner aldehyde afforded tetraene VI which produced III (X = O; R = H) upon methanolysis. The mesylate III (X = O; R = Ms) was advanced to thioester either by direct coupling with potassium (1R,2S)-2-methylcyclopropanethiocarboxylate obtained from (-)-(1R,2S)-2-methylcyclopropanecarboxylic acid or indirectly via III (X = S; R = H). The liberated amino thioester underwent thermal cyclization to give (+)-curacin A. I is unstable, even below -20°C, and is best preserved in a frozen benzene solution

IT 32854-09-4, L-Cystine dimethyl ester dihydrochloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis and absolute configuration of (+)-Curacin A, an antiproliferative agent from the Cyanobacterium *Lyngbya majuscula*)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 33 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1996:646486 CAPLUS

DOCUMENT NUMBER: 125:301608

ORIGINAL REFERENCE NO.: 125:56467a, 56470a

TITLE: Preparation of cysteine-containing peptides as inhibitors of blood platelet-derived growth factor (PDGF)

INVENTOR(S): Watanabe, Kunito; Imai, Minoru

PATENT ASSIGNEE(S): Teijin Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 08217792	A	19960827	JP 1995-22880	19950210
PRIORITY APPLN. INFO.:			JP 1995-22880	19950210
OTHER SOURCE(S):	MARPAT	125:301608		
GI				

H-Gly-D-Trp(5-F)-Glu-Cys-OH

H-Gly-D-Trp(5-F)-Glu-Cys-OH II

H-Gly-D-Trp(5-F)-Cys-Glu-OH

H-Gly-D-Trp(5-F)-Cys-Glu-OH III

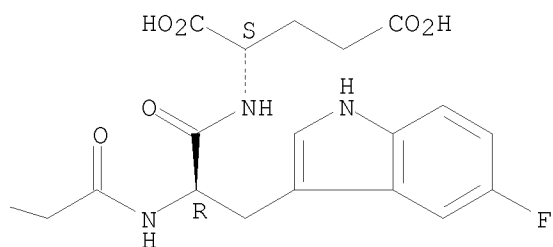
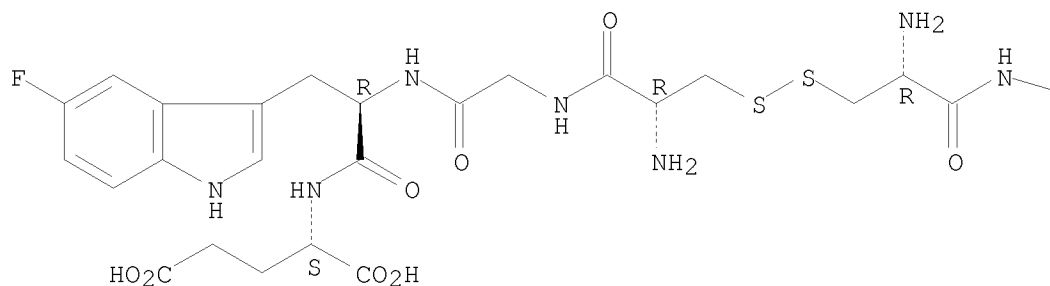
AB A-Ya-Xa-Yb-Xb-Yc-Xc-Yd-B [I; A = amino-terminus residue selected from H, C1-7 acyl, and C1-8 alkoxy carbonyl; Xa = one amino acid residue; Xb = optionally chemical modified L- or D-Trp; Xc = one amino acid residue; one of Ya, Yb, Yc, and Yd = Cys and the other three = bond; B = carboxy-terminus residue selected from OH, C1-7 alkoxy, NH₂, mono- or di(C1-7 alkyl)amino] are prepared A cell migration inhibitor and a pharmaceutical formulation for the treatment of reinfarction after percutaneous transluminal coronary angioplasty (PTCA) contains said peptide I. Thus, H-Gly-D-Trp(5-F)-Glu-Cys-OH was prepared by the Fmoc-solid phase method using Fmoc-DL-Trp(5-F)-OH. The disulfide dimers (II) and (III) at 1.0 + 10⁻⁵ M in vitro inhibited 52 and 64%, resp., human PDGF-BB-induced migration of vascular smooth muscle cells.

IT 182621-64-3P 182822-94-2P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of cysteine-containing peptides as inhibitors of blood platelet-derived growth factor (PDGF) and PDGF-induced cell migration)

RN 182621-64-3 CAPLUS

CN L-Glutamic acid, L-cysteinylglycyl-5-fluoro-D-tryptophyl-, bimol.
(1→1')-disulfide (9CI) (CA INDEX NAME)

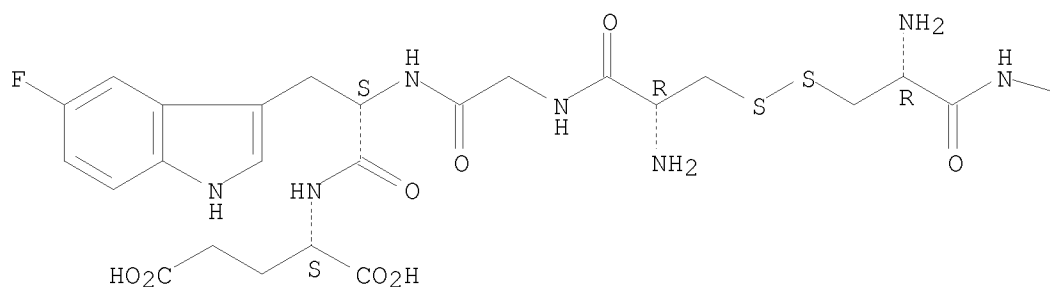
Absolute stereochemistry.

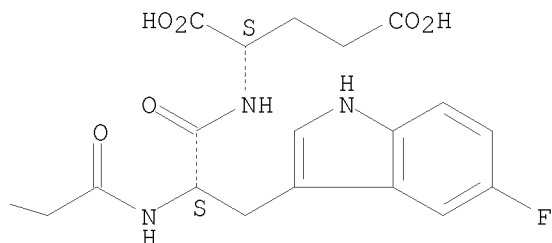


RN 182822-94-2 CAPLUS

CN L-Glutamic acid, L-cysteinylglycyl-5-fluoro-L-tryptophyl-, bimol.
(1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.





L5 ANSWER 34 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1996:607113 CAPLUS

DOCUMENT NUMBER: 126:8692

ORIGINAL REFERENCE NO.: 126:1927a,1930a

TITLE: Zinc complexes of amino acids and peptides. Part 8. Difunctional dipeptides containing cysteine or histidine. Solution behavior and zinc complexation

AUTHOR(S): Gockel, Peter; Vahrenkamp, Heinrich

CORPORATE SOURCE: Inst. Anorganische Analytische Chem., Univ. Freiburg, Freiburg/Br., D-79104, Germany

SOURCE: Chemische Berichte (1996), 129(10), 1243-1249

CODEN: CHBEAM; ISSN: 0009-2940

PUBLISHER: VCH

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The dipeptides Ac-Cys-Val-OH, Ac-His-Val-OH, H-Gly-Cys-OEt, H-Val-His-OEt, Z-Asp-Cys-OH, and Z-Asp-His-OH (Z = benzyloxycarbonyl) were prepared, and their Zn complexation was investigated by potentiometric methods. They have in common that in addition to the cysteine thiolate or the histidine imidazol the second amino acid offers one donor function. The complex stabilities are very close to those of the corresponding difunctional derivs. of the single amino acids cysteine or histidine. This indicates the presence of 7- to 10-membered chelate rings.

IT 38261-78-8, Cystine di-tert-butyl ester dihydrochloride
95839-38-6

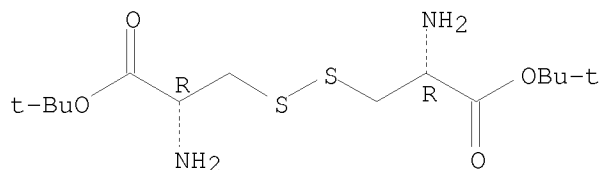
RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation, zinc complexation, and acidity of difunctional dipeptides containing cysteine or histidine)

RN 38261-78-8 CAPLUS

CN L-Cystine, 1,1'-bis(1,1-dimethylethyl) ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



● 2 HCl

RN 95839-38-6 CAPLUS

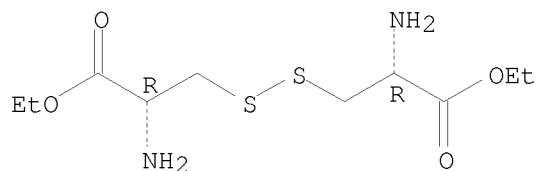
CN L-Cystine, diethyl ester, bis(4-methylbenzenesulfonate) (9CI) (CA INDEX NAME)

CM 1

CRN 583-89-1

CMF C10 H20 N2 O4 S2

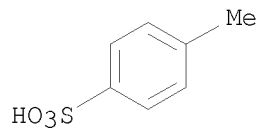
Absolute stereochemistry.



CM 2

CRN 104-15-4

CMF C7 H8 O3 S



L5 ANSWER 35 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1996:554345 CAPLUS

DOCUMENT NUMBER: 125:301508

ORIGINAL REFERENCE NO.: 125:56450h,56451a

TITLE: Synthesis and properties of chiral calixarene analogs
bridged by a (R,R)-cystine unit

AUTHOR(S): Ito, Kazuaki; Ohba, Yoshihiro; Sone, Tyo

CORPORATE SOURCE: Dep. of Materials Sci. and Eng., Yamagata Univ.,
Yonezawa, 992, Japan

SOURCE: Chemistry Letters (1996), (9), 783-784

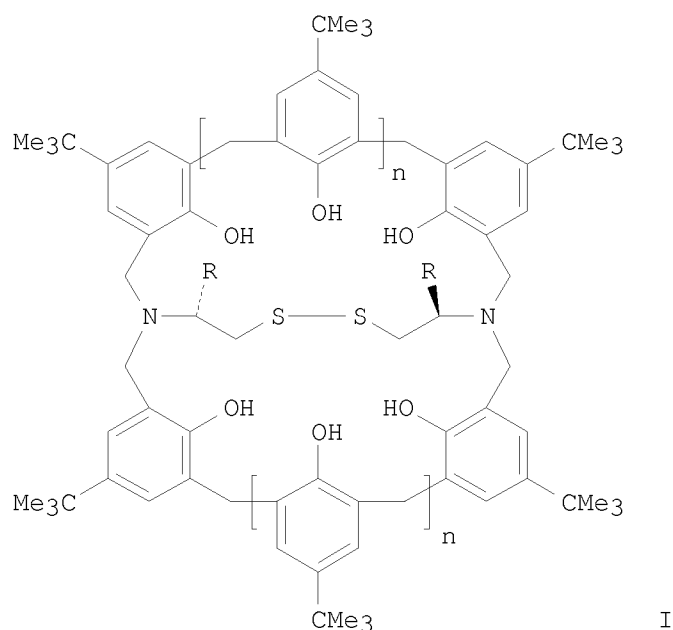
CODEN: CMLTAG; ISSN: 0366-7022

PUBLISHER: Nippon Kagakkai

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



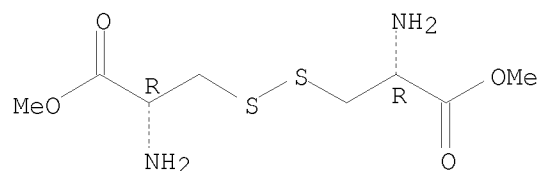
AB Chiral calixarene analogs I (R = H, CO₂Me; n = 0, 1), bridged by a (R,R)-cystine unit were synthesized. NMR studies reveal that the phenol-formaldehyde moieties of the macrocycles adopt a chiral helical geometry induced by the cystine bridge and the macrocycles form a twisted concave. This helicity is enhanced at low temperature

IT 32854-09-4, Cystine dimethyl ester dihydrochloride
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation, properties, and conformations of bridged calixarene analogs)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 36 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1996:469225 CAPLUS

DOCUMENT NUMBER: 125:222429

ORIGINAL REFERENCE NO.: 125:41597a, 41600a

TITLE: Zinc complexes of amino acids and peptides. Part 7. Solution behavior and zinc complexation of dipeptides made up solely from histidine and cysteine

AUTHOR(S): Gockel, Peter; Vogler, Raphael; Vahrenkamp, Heinrich

CORPORATE SOURCE: Inst. Anorg. Anal. Chem., Univ. Freiburg, Freiburg, D-79104, Germany

SOURCE: Chemische Berichte (1996), 129(8), 887-895
 CODEN: CHBEAM; ISSN: 0009-2940

PUBLISHER:	VCH
DOCUMENT TYPE:	Journal
LANGUAGE:	English

AB The eight possible types of dipeptides made up from histidine and cysteine, namely the unprotected ones H-His-Cys-OH (I) and H-Cys-His-OH (II), the N-protected ones Ac-His-Cys-OH (III) and Ac-Cys-His-OH (IV), the C-protected ones H-His-Cys-OEt (V) and H-Cys-His-NH₂ (VI), and the fully protected ones Ac-His-Cys-OEt (VII) and Ac-Cys-His-OEt (VIII) were prepared anal. pure. Their acid-base behavior and Zn complexation in solution were studied potentiometrically. In all cases 1:1 (Zn:peptide) complexes are the dominant species near neutral pH. Complexes with 1:2 ratio were only detected for IV and VI-VIII, and pptns. occurred in basic media. From equimolar mixts. of the peptides and Zn salts solid complexes were obtained upon addition of a base. They always contain coordinating anions. They have the composition LZnX for L = V-VIII and L₄Zn₅X₂ for L = I-IV (X = Cl, I, CF₃CO₂). It is proposed that all complex species observed contain tetrahedral Zn, that they are monomers in dilute solution and thiolate-bridged oligomers in the solid state, and that the peptides as a rule occupy at least 3 coordination sites.

IT 17607-26-0

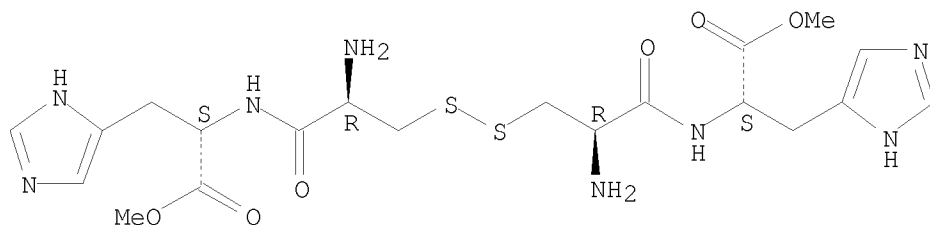
RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation, solution behavior, and zinc complexation of dipeptides from histidine and cysteine)

RN 17607-26-0 CAPLUS

CN L-Histidine, L-cysteinyl-, methyl ester, bimol. (1→1')-disulfide, tetrahydrobromide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● 4 HBr

IT 181279-76-5P

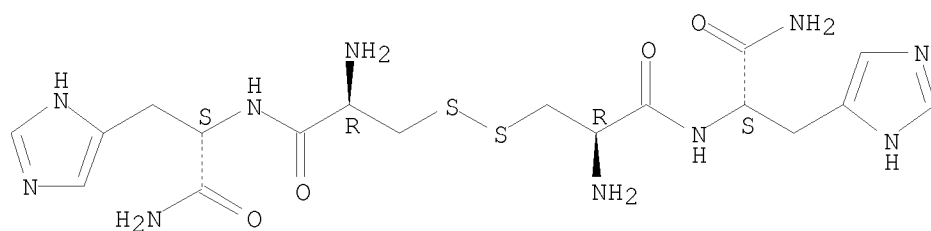
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation, solution behavior, and zinc complexation of dipeptides from histidine and cysteine)

RN 181279-76-5 CAPLUS

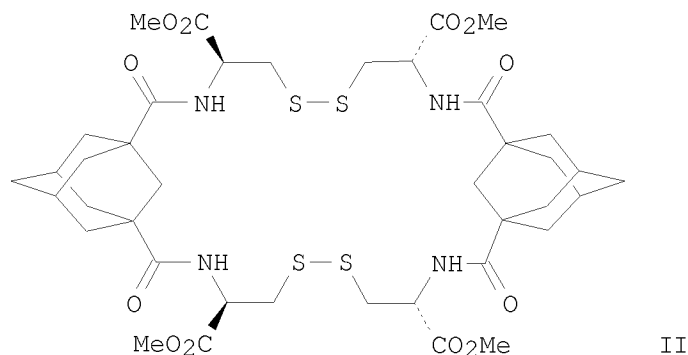
CN L-Histidinamide, L-cysteinyl-, bimol. (1→1')-disulfide,
tetrahydrobromide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● 4 HBr

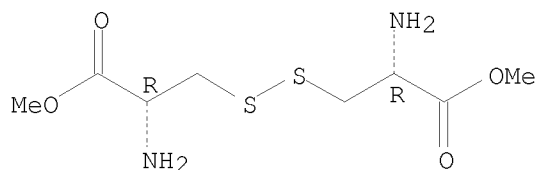
L5 ANSWER 37 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1996:355718 CAPLUS
 DOCUMENT NUMBER: 125:143269
 ORIGINAL REFERENCE NO.: 125:26841a,26844a
 TITLE: Design, synthesis, and ion-transport properties of a novel family of cyclic, adamantane-containing cystine peptides
 AUTHOR(S): Ranganathan, Darshan; Haridas, V.; Madhusudanan, K. P.; Roy, Raja; Nagaraj, R.; John, G. B.; Sukhaswami, M. B.
 CORPORATE SOURCE: Biomol. Res. Univ., CSIR, Trivandrum, 695019, India
 SOURCE: Angewandte Chemie, International Edition in English (1996), 35(10), 1105-1107
 CODEN: ACIEAY; ISSN: 0570-0833
 PUBLISHER: VCH
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI



AB The design and synthesis of adamantane-containing cystine cyclic peptides of general structure cyclo(Adm-Cyst)_n [I; Adm = 1,3-adamantanedicarbonyl, Cyst = L-cystine di-Me ester; n = 2 (II), 3, 4, 5], prepared in a single step by condensation of 1,3-adamantanedicarbonyl chloride with L-cystine di-Me ester, are described. I (n = 2-4) were shown to transport ions across model membranes (small unilamellar vesicles); I (n = 2) transports Na⁺ in preference to K⁺, I (n = 3) is more selective towards K⁺, and I (n = 4) shows negligible transport properties for both ions. None of the compds. I were able to transport Ca²⁺ across lipid bilayer membranes. Furthermore, the macrocycles I did not cause the release of entrapped carboxyfluorescein, indicating that the movement of ions across the membrane was not due to the formation of large pores or detergent-like

action.
 IT 32854-09-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (design, synthesis, and ion-transport properties of a novel family of
 cyclic, adamantane-containing cystine peptides)
 RN 32854-09-4 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

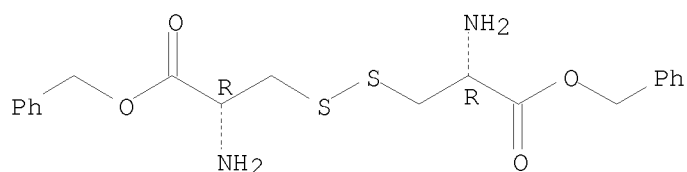
Absolute stereochemistry.



● 2 HCl

L5 ANSWER 38 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1996:319929 CAPLUS
 DOCUMENT NUMBER: 125:11622
 ORIGINAL REFERENCE NO.: 125:2543a,2546a
 TITLE: Improvement of the synthesis of
 poly(L-cystyl-L-cystine): a new biodegradable polymer
 AUTHOR(S): Bechaouch, Soufiane; Coutin, Bernard; Sekiguchi,
 Hikaru
 CORPORATE SOURCE: Lab. Chim. Macromol., Univ. Pierre et Marie Curie,
 Paris, 75252, Fr.
 SOURCE: Macromolecular Chemistry and Physics (1996), 197(5),
 1661-1668
 CODEN: MCHPES; ISSN: 1022-1352
 PUBLISHER: Huethig & Wepf
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB A new synthesis of poly(L-cystyl-L-cystine) from
 N,N'-bis(trimethylsilyl)cystine dibenzyl ester and
 N,N'-bis(benzyloxycarbonyl)cystine bis(pentafluorophenyl) ester is
 described. The partial as well as complete deprotection of the polymer
 using a new method, generally used in peptide chemical, is also described.
 IT 85006-27-5, Cystine dibenzyl ester di-p-toluenesulfonate
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (starting material for monomer; preparation of nonpeptidic polyamide from
 N,N'-bis(trimethylsilyl)cystine dibenzyl ester and
 N,N'-bis(benzyloxycarbonyl)cystine bis(pentafluorophenyl) ester)
 RN 85006-27-5 CAPLUS
 CN L-Cystine, bis(phenylmethyl) ester, bis(4-methylbenzenesulfonate) (9CI)
 (CA INDEX NAME)
 CM 1
 CRN 85006-26-4
 CMF C20 H24 N2 O4 S2

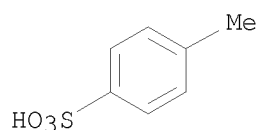
Absolute stereochemistry.



CM 2

CRN 104-15-4

CMF C7 H8 O3 S



L5 ANSWER 39 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1996:250123 CAPLUS

DOCUMENT NUMBER: 124:331143

ORIGINAL REFERENCE NO.: 124:61099a,61102a

TITLE: Pulsed electrochemical detection of sulfur-containing compounds following microbore liquid chromatography

AUTHOR(S): Owens, George S.; LaCourse, William R.

CORPORATE SOURCE: Dep. Chem. Biochem., Univ. Maryland Baltimore County, Baltimore, MD, 21228, USA

SOURCE: Current Separations (1996), 14(3/4), 82-8

CODEN: CUSEEW; ISSN: 0891-0006

PUBLISHER: Bioanalytical Systems, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Pulsed Electrochem. Detection (PED) is a useful technique for detection of sulfur-containing compds. separated by microbore Liquid Chromatog. (LC). In PED,

both thiols and disulfides can be detected directly at a single gold electrode with limits of detection at the low picomole level. Two common PED techniques, Pulsed Amperometric Detection (PAD) and Integrated Pulsed Amperometric Detection (IPAD), are studied using model sulfur-containing compds. Although both techniques can be used, results showed that IPAD resulted in better sensitivity and baseline stability than PAD. Peak asymmetry (tailing), which is typically poor for sulfur-containing compds. in LC, was mitigated by a well-conditioned column and using acetate in the mobile phase.

IT 7729-20-6, N,N'-L-Cystyldiglycine

RL: ANT (Analyte); ANST (Analytical study)

(sulfur-containing compds. determination by microbore liquid chromatog.

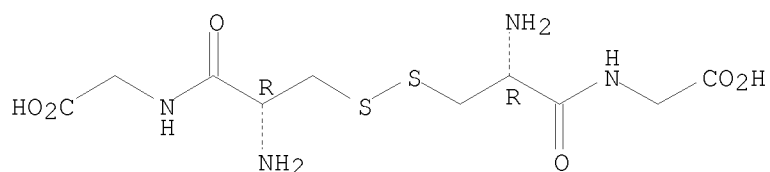
with pulsed

electrochem. detection)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1-1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 40 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1996:243692 CAPLUS

DOCUMENT NUMBER: 125:59112

ORIGINAL REFERENCE NO.: 125:11389a,11392a

TITLE: Spontaneous formation of diastereoisomeric
2-methylthiazolidine-2,4-dicarboxylates from cystine
esters and related compounds

AUTHOR(S): Hill, Roger R.; Robinson, Stephen J.

CORPORATE SOURCE: Dep. Chem., Open Univ., Milton Keynes, MK7 6AA, UK

SOURCE: Chemical Communications (Cambridge) (1996), (7), 843-4

CODEN: CHCOFS; ISSN: 1359-7345

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Dialkyl esters of cystine and lanthionine undergo conversion to cis- and
trans-2-methylthiazolidine-2,4-dicarboxylates at 25-80°C in protic
solvents.

IT 1069-29-0 5027-64-5 177272-24-1

177697-52-8

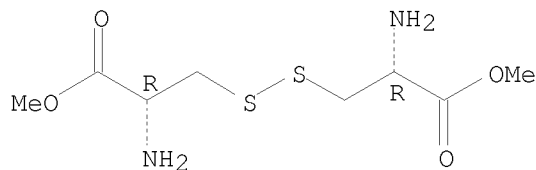
RL: RCT (Reactant); RACT (Reactant or reagent)

(formation of methylthiazolidinedicarboxylates from cystine and
lanthionine esters)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

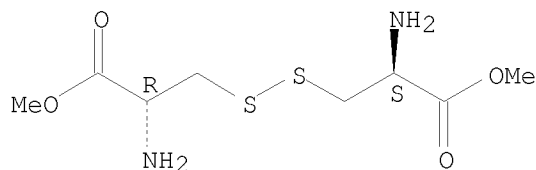
Absolute stereochemistry.



RN 5027-64-5 CAPLUS

CN meso-Cystine, dimethyl ester (9CI) (CA INDEX NAME)

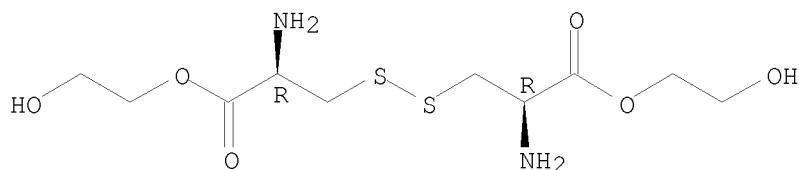
Relative stereochemistry.



RN 177272-24-1 CAPLUS

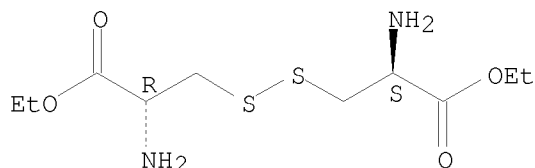
CN L-Cystine, bis(2-hydroxyethyl) ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 177697-52-8 CAPLUS
 CN meso-Cystine, diethyl ester (9CI) (CA INDEX NAME)

Relative stereochemistry.



L5 ANSWER 41 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1996:73868 CAPLUS

DOCUMENT NUMBER: 124:106904

ORIGINAL REFERENCE NO.: 124:19699a,19702a

TITLE: Bis(31/31') {[Cys31,Trp32,Nva34]NPY-(31-36)}: A
 Specific NPY Y-1 Receptor Antagonist

AUTHOR(S): Balasubramaniam, A.; Zhai, W.; Sheriff, S.; Tao, Z.;
 Chance, W. T.; Fischer, J. E.; Eden, P.; Taylor, J.

CORPORATE SOURCE: Medical Center, University of Cincinnati, Cincinnati,
 OH, 45267, USA

SOURCE: Journal of Medicinal Chemistry (1996), 39(4), 811-13
 CODEN: JMCMAR; ISSN: 0022-2623

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Peptide dimers based on the neuropeptide Y (NPY) receptor antagonist, Des-Asn29[Trp28,32Nva34]NPY(27-36), were synthesized and their properties investigated using SK-N-MC and HEL cells (Y-1 receptors), and SK-N-BE2 (y-2). Bis(31/31') {[Cys31,Nva34] NPY(27-36)} (Ki for Y-1=36 nM) and bis(31/31') {Des-Asn29[Cys31,Nva34]NPY(27-36)} (Ki for Y-1=49 nM) bound selectively of Y-1 receptors, but weakly mobilized intracellular calcium, [Ca2+]i, in HEL cells. However, introduction of Trp32 as in bis(31/31') {[Cys31,Trp32,Nva34]NPY(27-36)} (Ki for Y-1 = 44 nM) abolished the partial agonistic characteristics resulting in a Y-1 receptor antagonist. A truncated analog of this peptide, bis(31/31') {[Cys31,Trp32,Nva34]NPY(31-36)}, retained the Y-1 receptor affinity (Ki for Y-1 = 46 nM), and exhibited virtually no binding to Y-2 receptors (Ki for Y-2 >10,000 nM). Moreover, this peptide antagonized the effects of NPY on [Ca2+]i and cAMP in HEL and SK-N-MC cells, resp., and exhibited no effects on NPY-induced feeding. The authors believe that bis(31/31') {[Cys31,Trp32,Nva34]NPY(31-36)} constitutes the first peptide based specific NPY Y-1 receptor antagonist to be reported.

IT 172997-97-6

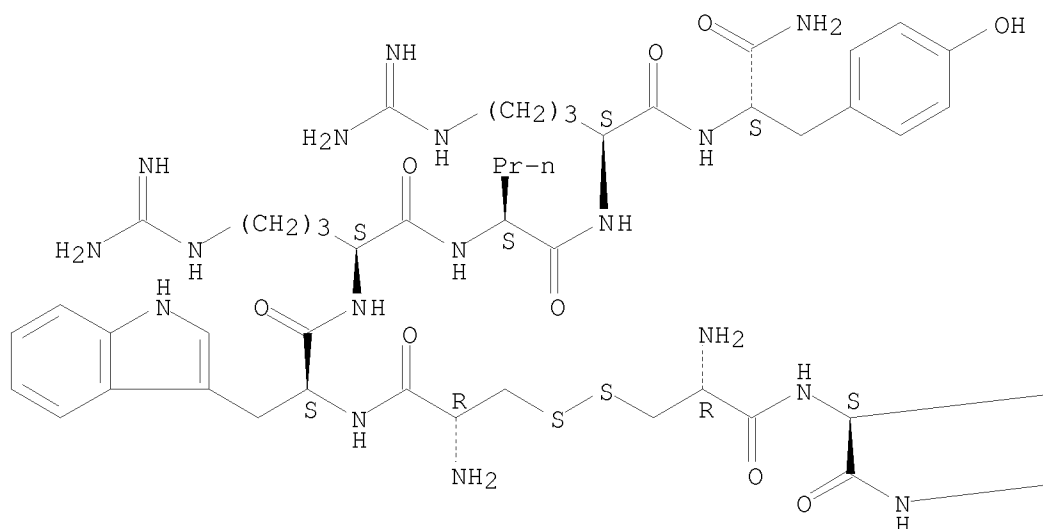
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
 (structure-activity relations of peptide dimer-based neuropeptide Y1 receptor antagonists)

RN 172997-97-6 CAPLUS

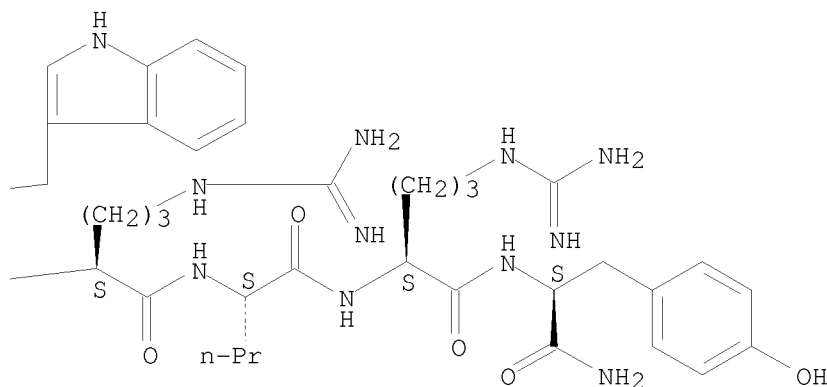
CN L-Tyrosinamide, L-cysteinyl-L-tryptophyl-L-arginyl-L-norvalyl-L-arginyl-, bimol. (1-1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



L5 ANSWER 42 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:913293 CAPLUS

DOCUMENT NUMBER: 123:314546

ORIGINAL REFERENCE NO.: 123:56411a, 56414a

TITLE: Preparation of peptide- or amino acid-containing
thioglycerols as immunostimulants and medicaments for
treatment and prevention of thrombocytopenia and
leukocytopoiesis

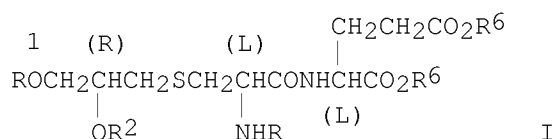
INVENTOR(S): Aono, Tetsuya; Yukishige, Koichi; Tanida, Seiichi

PATENT ASSIGNEE(S): Takeda Chemical Industries Ltd, Japan

SOURCE: Jpn. Kokai Tokyo Koho, 23 pp.

DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07126243	A	19950516	JP 1994-216427	19940909
PRIORITY APPLN. INFO.:			JP 1994-216427	A 19940909
			JP 1993-225762	19930910
OTHER SOURCE(S):	MARPAT 123:314546			
GI				



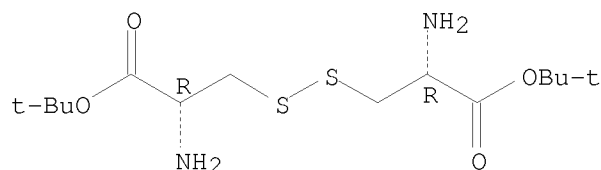
AB R1OCH2CH(OR2)CH2SCR3R4CHR5-X-Y [R1, R2 = substituted CONH2 or acyl, preferably C6-26 fatty acyl, provided that at least one of R1 and R2 = substituted CONH2; R3, R4 = H, alkyl; R5 = (un)protected NH2; X = CO, SO2, CONH(CH2)nNHCO; wherein n = 1-7; Y = (un)protected sequence of 1-7 amino acids which may be bonded through a sulfonamide bond] are prepared These compds. are useful for the treatment of leukocytopoiesis caused by chemotherapy and radiation therapy, thrombocytopenia, diseases caused by the decrease in leukocytes and erythrocytes, and diseases which need the increase in bone marrow cells, leukocytes, megakaryocytes, and blood platelets, and useful as immunostimulants in bone marrow transplant and for the treatment of aplastic anemia and bone marrow malformation syndrome. Thus, L-cysteinyl-L-glutamic acid derivative (I; R = CO2CH2CCl3, R1 = R2 = H, R6 = CMe3) was acylated by octadecyl isocyanate in the presence of 4-dimethylaminopyridine in CH2Cl2 and then by palmitoyl chloride in pyridine/CH2Cl2 and treated with Zn and AcOH to give a dipeptide derivative I (R = H, R1 = octadecylcarbamoyl, R2 = palmitoyl, R6 = CMe3). The latter peptide in vitro showed min. effective concentration of 0.31 ng/mL for enhancing the proliferation of mouse bone marrow cells. A capsule, a tablet, and an injection formulation containing I.HCl (R = R6 = H, R1 = R2 = octadecylcarbamoyl) were prepared

IT 62574-13-4, Di-tert-butyl L-cystinate
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction for preparation of peptide- or amino acid-containing thioglycerols as immunostimulants and medicaments)

RN 62574-13-4 CAPLUS

CN L-Cystine, 1,1'-bis(1,1-dimethylethyl) ester (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



L5 ANSWER 43 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:865433 CAPLUS
DOCUMENT NUMBER: 123:338328
ORIGINAL REFERENCE NO.: 123:60729a,60732a
TITLE: Determination of thiols and disulfides using
high-performance liquid chromatography with
electrochemical detection
AUTHOR(S): Kleinman, Wayne A.; Richie, John P. Jr.
CORPORATE SOURCE: Division of Nutritional Carcinogenesis, American
Health Foundation, 1 Dana Road, Valhalla, NY, 10595,
USA
SOURCE: Journal of Chromatography, B: Biomedical Applications
(1995), 672(1), 73-80
CODEN: JCBBEP; ISSN: 0378-4347
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Low-mol.-mass thiols, such as glutathione (GSH), and their associated
disulfides are ubiquitous in nature, and based upon the many known
functions of these compds., their identification and accurate measurement
is essential. The objectives were to develop a simple method for the
simultaneous measurement of thiols and disulfides in biol. samples using
HPLC with dual electrochem. detection (HPLC-DED). Particular emphasis was
placed on the applicability to a wide variety of important GSH-related
thiols and disulfides, including γ -Glu-Cys, Cys-Gly, their
disulfides, and the mixed disulfide of glutathione and cysteine (CSSG),
validation on different types of biol. samples, maintenance of chromatog.
resolution and reproducibility with routine and extended use, and enhancement
of assay sensitivity. To this end, optimal HPLC conditions including
mobile phase, column, and electrode polishing procedures were established
and the method was applied to and validated on a variety of biol. samples.
This improved methodol. should prove to be a useful tool in studies on the
metabolism of GSH and other thiols and disulfides and their role in cellular
homeostasis and disease processes.

IT 7729-20-6

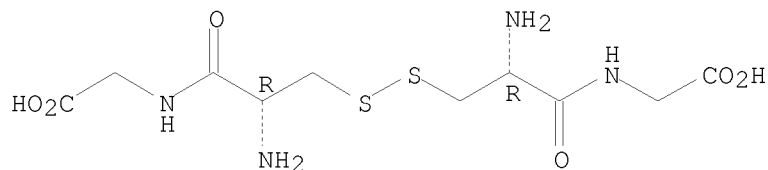
RL: ANT (Analyte); ANST (Analytical study)

(determination of thiols and disulfides by HPLC with electrochem. detection)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 44 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:774579 CAPLUS
DOCUMENT NUMBER: 123:208920
ORIGINAL REFERENCE NO.: 123:37007a,37010a
TITLE: Thiol-containing biomaterials for medical and
pharmaceutical use
INVENTOR(S): Constancis, Alain; Soula, Gerard
PATENT ASSIGNEE(S): Flamel Technologies, Fr.
SOURCE: Fr. Demande, 28 pp.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2707992	A1	19950127	FR 1993-9198	19930721
FR 2707992	B1	19951013		
WO 9503272	A1	19950202	WO 1994-FR914	19940721
W: JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 710226	A1	19960508	EP 1994-922288	19940721
EP 710226	B1	19981014		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 09503490	T	19970408	JP 1994-504980	19940721
AT 172191	T	19981015	AT 1994-922288	19940721
US 5646239	A	19970708	US 1996-578539	19960306
PRIORITY APPLN. INFO.:			FR 1993-9198	A 19930721
			WO 1994-FR914	W 19940721

OTHER SOURCE(S): MARPAT 123:208920

AB Thiol-containing biomaterials for medical and pharmaceutical use are prepared from condensation of a dicarboxylic acid with a S-containing amino acid or its derivs. (Markush structure given). The compns. are used for preparation of sutures, prosthetics, adhesives and controlled-release preps. Thus, 3 g [CH(CH₂)₂CONHCH(COOH)CH₂S:SCH₂CH₂(COOH)NH]_n (preparation given) and 2.87 g dithiothreitol was dissolved in 70 mL water under N, pH = 8.5, and stirred for 3 h to obtain [SHCH₂CH(COOH)NHCO(CH₂)₂CONHCH(COOH)CH₂SH]_n.

IT 583-89-1P 22888-38-6P

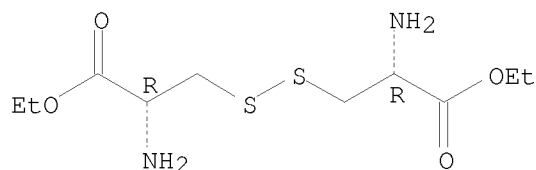
RL: DEV (Device component use); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(thiol-containing biomaterials for medical and pharmaceutical use)

RN 583-89-1 CAPLUS

CN L-Cystine, 1,1'-diethyl ester (CA INDEX NAME)

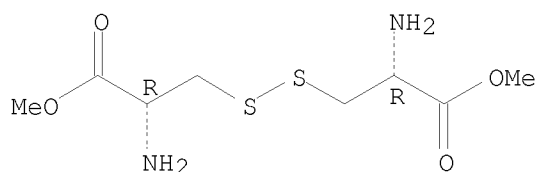
Absolute stereochemistry.



RN 22888-38-6 CAPLUS

CN L-Cystine, dimethyl ester, hydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● x HCl

REFERENCE COUNT:

4

THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 45 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:594558 CAPLUS
DOCUMENT NUMBER: 123:132891
ORIGINAL REFERENCE NO.: 123:23345a,23348a
TITLE: Chemical prevention or reversal of cataract by phase separation inhibitors
INVENTOR(S): Clark, John I.; Fowler, Kerry W.; Orme, Mark W.; Theodore, Louis J.
PATENT ASSIGNEE(S): Oculon Corp., USA
SOURCE: U.S., 45 pp. Cont.-in-part of U.S. Ser. No. 725,045, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 5401880	A	19950328	US 1992-817280	19920102
US 5284874	A	19940208	US 1992-942326	19920909
WO 9426259	A1	19941124	WO 1993-US4452	19930512
W: AU, CA, FI, JP, KR, NO, NZ				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9343723	A	19941212	AU 1993-43723	19930512
US 5290813	A	19940301	US 1993-104334	19930809
PRIORITY APPLN. INFO.:			US 1987-58140	B2 19870604
			US 1988-198850	B2 19880526
			US 1989-451955	B2 19891215
			US 1990-633482	B2 19901227
			US 1991-725045	B2 19910703
			US 1992-942326	A1 19920909
			WO 1993-US4452	W 19930512

OTHER SOURCE(S): CASREACT 123:132891; MARPAT 123:132891

AB Methods and pharmaceutical reagents are disclosed for decreasing the phase separation temperature and inhibiting the formation of high mol. with aggregates in

eye lenses, thereby inhibiting or reversing cataract formation. Phase separation inhibitors of the invention include certain sulfur-containing compds.,

vitamins, lipids, etc., as well as I and similar compds. (13 specific compds. claimed). Phosphorothioate WR-77913 protected against radiation-induced cataract formation in rats; WR-77913 also inhibited e.g. streptozotocin-induced diabetic cataracts. Phosphorothioate WR-77913 decreased the phase separation temperature in a lens tissue homogenate.

Effects of other compds. (e.g. N-hydroxysuccinimide, succinimide, pantethine, cysteamine) are described. Preparation of I and related compds. is presented. A natural phase separation inhibitor for prevention of cataracts, extracted from normal lens tissue, is also described.

IT 32854-09-4, L-Cystine dimethyl ester dihydrochloride

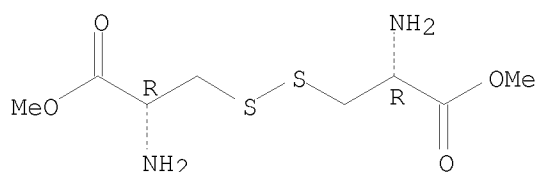
RL: RCT (Reactant); RACT (Reactant or reagent)

(cataract reversal or prevention with phase separation inhibitors, and inhibitor preparation)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 46 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1995:594426 CAPLUS
 DOCUMENT NUMBER: 123:29059
 ORIGINAL REFERENCE NO.: 123:5289a,5292a
 TITLE: Biocompatible, low protein adsorption affinity matrix
 INVENTOR(S): Braatz, James A.; Heifetz, Aaron H.
 PATENT ASSIGNEE(S): W. R. Grace and Co., USA
 SOURCE: U.S., 14 pp. Cont.-in-part of U.S. 5,169,720.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 5
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5403750	A	19950404	US 1991-682502	19910408
US 5169720	A	19921208	US 1991-665498	19910306
CA 2061510	A1	19920907	CA 1992-2061510	19920219
CA 2061664	A1	19920907	CA 1992-2061664	19920221
JP 05103831	A	19930427	JP 1992-78740	19920302
EP 510393	A1	19921028	EP 1992-105583	19920401
EP 510393	B1	19951004		
R: DE, FR, GB, IT				
JP 07191008	A	19950728	JP 1992-105238	19920401
PRIORITY APPLN. INFO.:			US 1991-665498	A2 19910306
			US 1986-932080	B2 19861118
			US 1987-130826	B2 19871209
			US 1987-135878	B2 19871221
			US 1988-175880	B2 19880331
			US 1991-682502	A 19910408

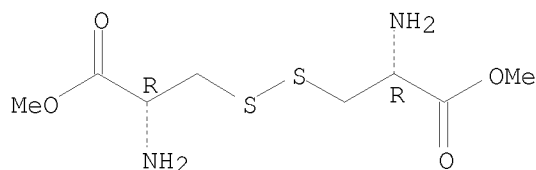
AB Affinity matrixes useful for the chromatog. and immobilization of biol. materials and the method of preparing and using the same are disclosed. The affinity supports are based on hydrated polyurethane polymers which have been activated to provide a means for covalently attaching a variety of bioaffinity agents. The hydrated polymer matrixes are characterized by their biocompatibility and resistance to nonspecific protein adsorption. Preferably, the prepolymers used to prepare the hydrated polymers are isocyanate-capped oxyethylene-based diols or polyols, at least 75% of said diols and polyols having a mol. weight of 7000 to about 30,000.

IT 1069-29-0, L-Cystine dimethyl ester 78271-08-6,
 DL-Cystine dimethyl ester
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (biocompatible, low protein adsorption affinity matrix)

RN 1069-29-0 CAPLUS

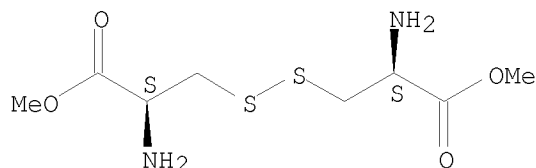
CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



RN 78271-08-6 CAPLUS
 CN Cystine, dimethyl ester (9CI) (CA INDEX NAME)

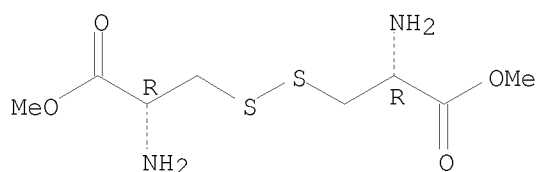
Relative stereochemistry.



REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 47 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1995:578965 CAPLUS
 DOCUMENT NUMBER: 123:8806
 ORIGINAL REFERENCE NO.: 123:1859a,1862a
 TITLE: Synthesis of Disulfides by Copper-Catalyzed Disproportionation of Thiols
 AUTHOR(S): Choi, Jaesung; Yoon, Nung Min
 CORPORATE SOURCE: Department of Chemistry, Sogang University, Seoul, 121-742, S. Korea
 SOURCE: Journal of Organic Chemistry (1995), 60(11), 3266-7
 CODEN: JOCEAH; ISSN: 0022-3263
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 123:8806
 AB Various thiols can be transformed to the corresponding disulfides quant. by copper catalyzed disproportionation in methanol under essentially neutral condition. The catalyst is conveniently prepared in situ on the resin by reducing a catalytic amount of CuSO₄ (0.01 equiv) with borohydride exchange resin (0.5 equiv) in methanol. Most disproportionations were completed in 3 h at room temperature, without being affected by other functional groups such as carbon-carbon double bond, hydroxy, amino, ester and furan moiety; however, tert-butanethiol, a hindered thiol, and aromatic thiols required 6 h. Disulfides thus prepared could be conveniently isolated by filtering the resin and evaporating methanol.
 IT 1069-29-0P, L-Cystine dimethyl ester
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (synthesis of disulfides by copper-catalyzed disproportionation of thiols)
 RN 1069-29-0 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 48 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:495583 CAPLUS

DOCUMENT NUMBER: 123:4835

ORIGINAL REFERENCE NO.: 123:1011a,1014a

TITLE: A scheme for the interpretation of primary and secondary disturbances of plasma and urinary amino acid profiles. A possible way to an expert system

AUTHOR(S): Parvy, P.; Bardet, J.; Rabier, D.; Kamoun, P.

CORPORATE SOURCE: Laboratoire de Biochimie Medicale B, Hopital Necker - Enfants Malades, 149, rue de Sevres, Paris, 75743/15, Fr.

SOURCE: Clinica Chimica Acta (1995), 235(1), 1-10

CODEN: CCATAR; ISSN: 0009-8981

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A general scheme for the interpretation of primary and secondary abnormalities of plasma and urine amino acid concns. is described. The key steps of this scheme are: anal. assessment of the measurements, comparison of results obtained with the reference values expressed in absolute and/or relative concns. and identification of abnormally increased ninhydrin-pos. compds. The interpretation of results takes account of the various abnormalities induced by drugs or diet. The origins of these abnormalities are ordered by their frequency. A part of the proposed scheme is now computerized as the first step in the development of an expert system.

IT 7729-20-6

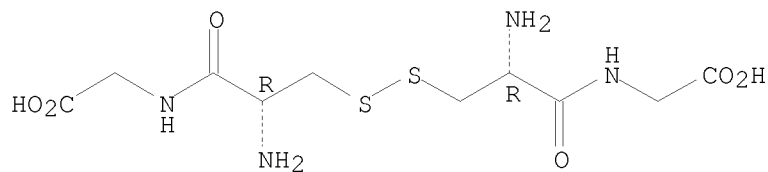
RL: ANT (Analyte); ANST (Analytical study)

(a scheme for the interpretation of primary and secondary disturbances of plasma and urinary amino acid profiles)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1-1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 49 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:484599 CAPLUS

DOCUMENT NUMBER: 122:222936

ORIGINAL REFERENCE NO.: 122:40575a,40578a

TITLE: Adhesive compositions for surgical use comprising sulfur-containing polymers

INVENTOR(S): Constancis, Alain; Soula, Gerard; Tayot, Jean Louis; Tiollier, Jerome

PATENT ASSIGNEE(S): Imedex S.A., Fr.

SOURCE: Eur. Pat. Appl., 19 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent
 LANGUAGE: French
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 635276	A1	19950125	EP 1994-401631	19940713
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
FR 2707878	A1	19950127	FR 1993-8964	19930721
FR 2707878	B1	19970214		
AU 9467579	A	19950202	AU 1994-67579	19940719
US 5496872	A	19960305	US 1994-277069	19940719
CA 2128463	A1	19950122	CA 1994-2128463	19940720
BR 9402861	A	19950404	BR 1994-2861	19940720
JP 07163650	A	19950627	JP 1994-191153	19940721

PRIORITY APPLN. INFO.: FR 1993-8964 A 19930721

AB A biocompatible, biodegradable adhesive for surgical use comprise R3S(CH2)xCH(COR1)NHCORCONHCH(COR2)(CH2)y-SR4 (R = C1-50 hydrocarbyl; R1, R2 = OR5, NHCH(COOR7)(CH2)zSR6, NH(CH2)ySR6; R3, R4, R5, R6, R7= H, aliphatic, alicyclic, aromatic, CH3, C2H5). Thus, 25 g of cystine dimethylester (I).HCl in 400 mL dimethylacetamide was mixed with 41.2 mL triethylamine and 8.1 mL succinyl chloride (II) in 100mL dimethylacetamide and stirred for 24 h at room temperature after which the triethylammonium salt was separated and reaction mixture was precipitated in 5L water to obtain I.II copolymer which was separated and purified. Use of title adhesives for protection of anastomoses and tissue and adhesion of skin in plastic surgery is described.

IT 162221-19-4DP, hydrolyzed 162221-19-4P
 RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (adhesive compns. for surgical use comprising sulfur-containing polymers)

RN 162221-19-4 CAPLUS

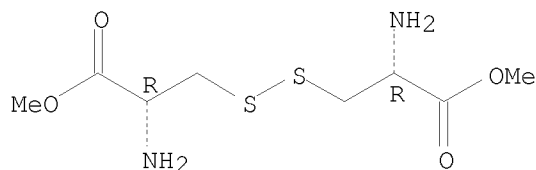
CN L-Cystine, dimethyl ester, polymer with butanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 1069-29-0

CMF C8 H16 N2 O4 S2

Absolute stereochemistry.



CM 2

CRN 110-15-6

CMF C4 H6 O4

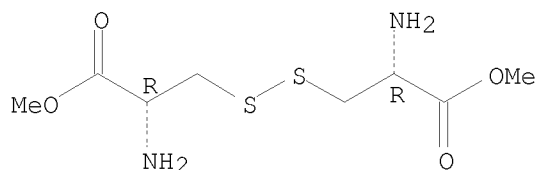
HO2C-CH2-CH2-CO2H

RN 162221-19-4 CAPLUS
CN L-Cystine, dimethyl ester, polymer with butanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 1069-29-0
CMF C8 H16 N2 O4 S2

Absolute stereochemistry.



CM 2

CRN 110-15-6
CMF C4 H6 O4

HO2C-CH2-CH2-CO2H

L5 ANSWER 50 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:481731 CAPLUS

DOCUMENT NUMBER: 122:214518

ORIGINAL REFERENCE NO.: 122:39238h,39239a

TITLE: Alkylation of Oxytocin by S-(2-Chloroethyl)glutathione and Characterization of Adducts by Tandem Mass Spectrometry and Edman Degradation

AUTHOR(S): Erve, John C. L.; Deinzer, Max L.; Reed, Donald J.

CORPORATE SOURCE: Department of Biochemistry and Biophysics, Oregon State University, Corvallis, OR, 97331-6502, USA

SOURCE: Chemical Research in Toxicology (1995), 8(3), 414-21
CODEN: CRTOEC; ISSN: 0893-228X

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB S-(2-Chloroethyl)glutathione (CEG), an alkylating agent formed by glutathione conjugation with 1,2-dichloroethane (DCE), is able to alkylate DNA and proteins. As a prelude to identification of specific protein alkylation sites, the peptide oxytocin was alkylated by CEG, and tandem mass spectrometry was used to identify the alkylation sites. It was found that mono-, bis-, and tris-adducts can result from alkylation of reduced oxytocin and that tandem mass spectrometry differentiated (S-[2-(Cys1)ethyl]glutathione)oxytocin (mono-adduct Cys-1) from (S-[2-(Cys6)ethyl]glutathione)oxytocin (mono-adduct Cys-6). Manual Edman degradation was used to eliminate the possibility that alkylation has occurred at Tyr-2 rather than at Cys-1 in the case of (S-[2-(Cys1,6)ethyl]glutathione)oxytocin (bis-adduct) and mono-adduct Cys-1. A mono-adduct homodimer resulting from alkylation at Cys-6 and disulfide bridge formation through Cys-1 was also identified. Oxidized oxytocin formed 2 minor adducts, representing <5% of the oxytocin present in the reaction mixture. These findings demonstrate that alkylation of oxytocin by the episulfonium ion of CEG did occur, as evidenced by tandem mass spectrometry, and that characterization of these adducts will aid in

the identification of alkylated amino acids in proteins exposed to CEG.

IT 161270-77-5P

RL: SPN (Synthetic preparation); PREP (Preparation)

(oxytocin alkylation by chloroethyl glutathione and characterization of adducts)

RN 161270-77-5 CAPLUS

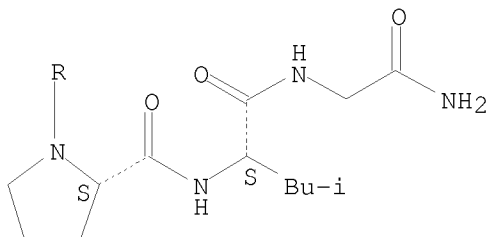
CN Glycinamide, L-cysteinyl-L-tyrosyl-L-isoleucyl-L-glutaminyl-L-asparaginyl-S-(2-mercaptoethyl)-L-cysteinyl-L-prolyl-L-leucyl-, bimol.

(1→1')-disulfide, (6→2''), (6'→2''')-bis(sulfide) with

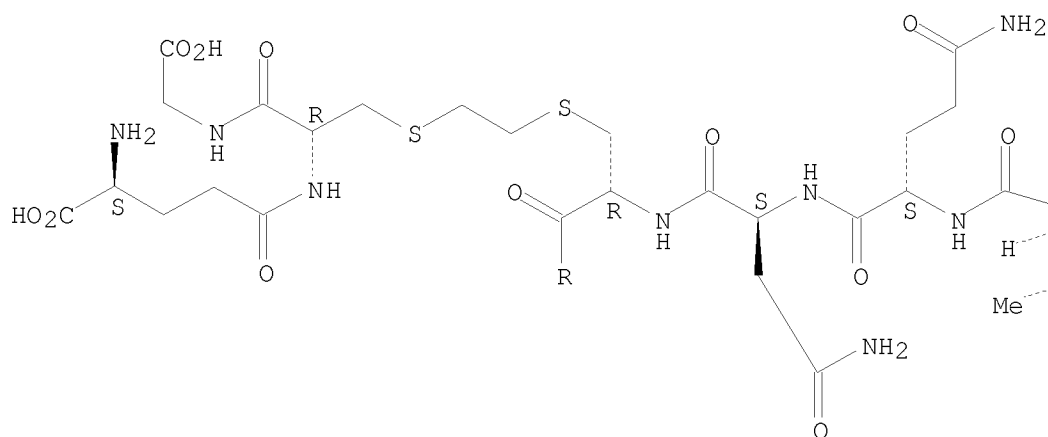
L-γ-glutamyl-L-cysteinylglycine (9CI) (CA INDEX NAME)

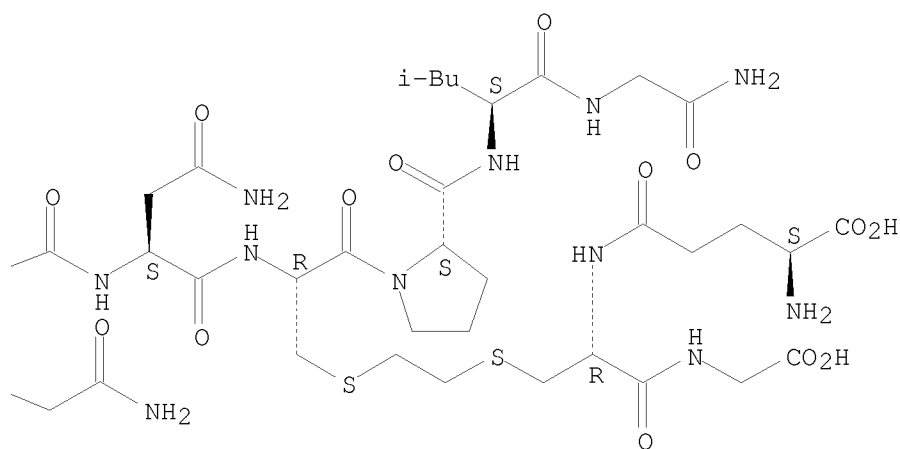
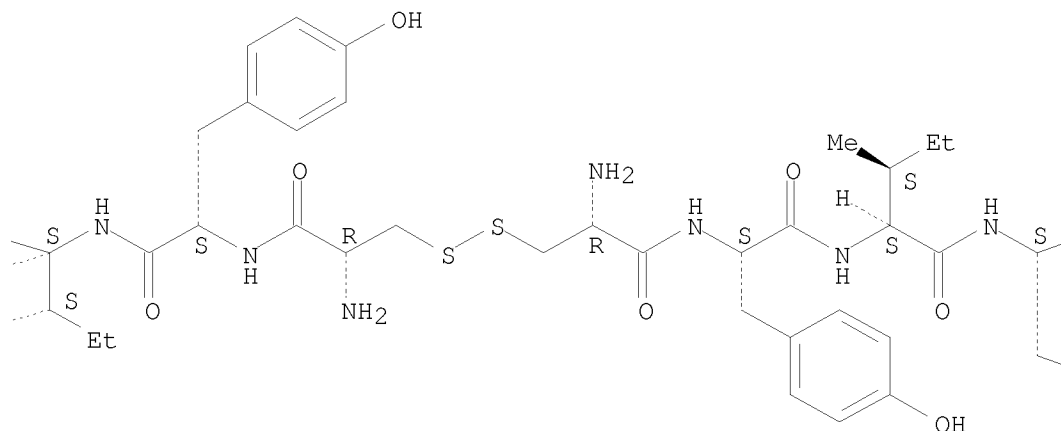
Absolute stereochemistry.

PAGE 1-A



PAGE 2-A





L5 ANSWER 51 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:400540 CAPLUS

DOCUMENT NUMBER: 123:9202

ORIGINAL REFERENCE NO.: 123:1935a,1938a

TITLE: Absolute configuration of curacin A, a novel antimitotic agent from the tropical marine cyanobacterium *Lyngbya majuscula*

AUTHOR(S): Nagle, Dale G.; Geraldts, Robin S.; Yoo, Hye-Dong; Gerwick, William H.

CORPORATE SOURCE: Coll. Pharm., Oregon State Univ., Corvallis, OR, 97331, USA

SOURCE: Tetrahedron Letters (1995), 36(8), 1189-92

CODEN: TELEAY; ISSN: 0040-4039

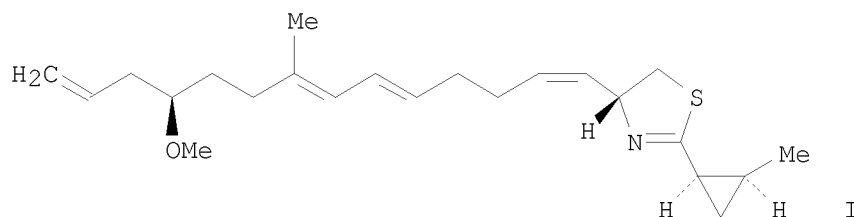
PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 123:9202

GI



AB Curacin A (I) is a structurally novel antimitotic agent isolated from the caribbean cyanobacterium *Lyngbya majuscula*. Its planar structure has been previously determined from a spectroscopic investigation. Here, the authors define the complete relative and absolute configuration of curacin A by comparison of products obtained from chemical degradation of the natural product

with the same substance prepared by synthesis. Curacin A is shown to have 2R,13R,19S,21S absolute configuration.

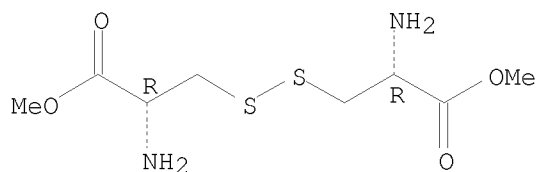
IT 32854-09-4, Cystine dimethyl ester dihydrochloride

RL: RCT (Reactant); RACT (Reactant or reagent)
(absolute configuration of curacin A)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 52 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:295071 CAPLUS

DOCUMENT NUMBER: 123:170112

ORIGINAL REFERENCE NO.: 123:30403a,30406a

TITLE: Applications of strong cation-exchange (SCX)-HPLC in synthetic peptide analysis

AUTHOR(S): Crimmins, Dan L.

CORPORATE SOURCE: School Medicine, Washington University, St. Louis, MO, USA

SOURCE: Methods in Molecular Biology (Totowa, NJ, United States) (1994), 36(PEPTIDE ANALYSIS PROTOCOLS), 53-64
CODEN: MMBIED; ISSN: 1064-3745

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Strong cation exchange (SCX)-HPLC, using a sulfoethyl aspartamide SCX column, is extremely effective for the general anal. of synthetic peptides, N-terminally blocked peptides, and peptide fragments derived from proteolytic digests. This method is used to analyze both homo- and heteropeptide disulfide-linked dimer synthetic peptides, and the results contrasted with standard C18 reverse-phase HPLC.

IT 126667-00-3P

RL: ANT (Analyte); BYP (Byproduct); ANST (Analytical study); PREP (Preparation)

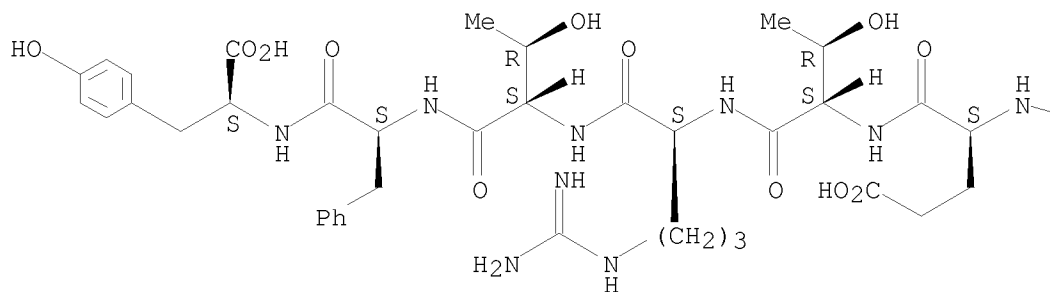
(applications of strong cation-exchange HPLC in anal. of
disulfide-containing synthetic peptides)

RN 126667-00-3 CAPLUS

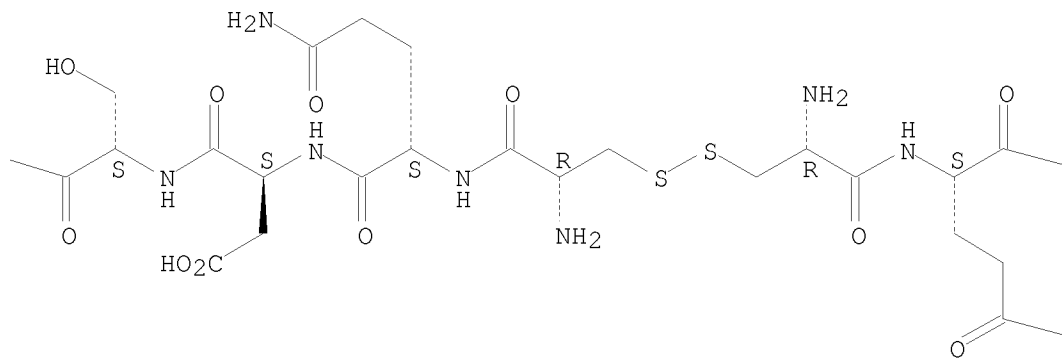
CN L-Tyrosine, L-cysteinyl-L-glutaminyl-L- α -aspartyl-L-seryl-L- α -
glutamyl-L-threonyl-L-arginyl-L-threonyl-L-phenylalanyl-, bimol.
(1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

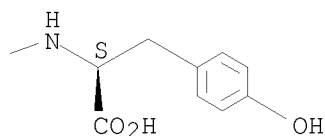
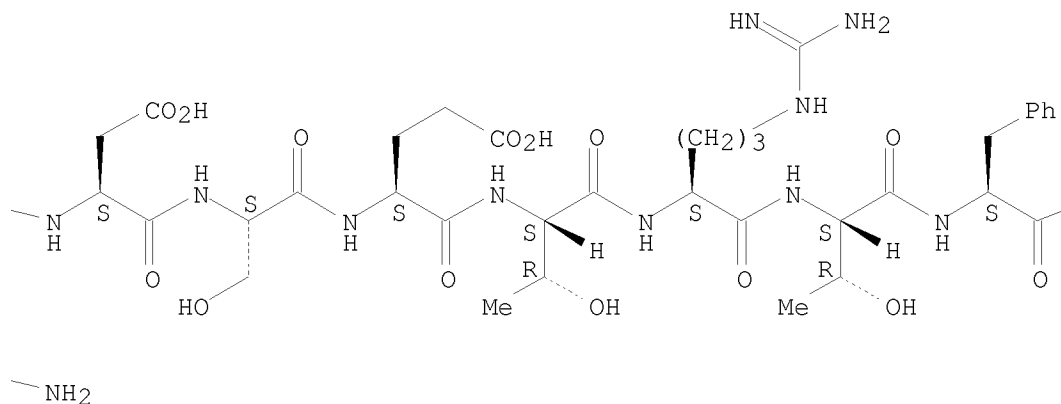
Absolute stereochemistry.

PAGE 1-A



PAGE 1-B





L5 ANSWER 53 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:260257 CAPLUS

DOCUMENT NUMBER: 122:48634

ORIGINAL REFERENCE NO.: 122:9245a,9248a

TITLE: Thiol levels in rat bronchio-alveolar lavage fluid after administration of cysteine esters

AUTHOR(S): Lailey, Alison F.; Upshall, David G.

CORPORATE SOURCE: Chemical and Biological Defence Establishment, Porton Down/Salisbury/Wilts, SP4 OJQ, UK

SOURCE: Human & Experimental Toxicology (1994), 13(11), 776-80
CODEN: HETOEA; ISSN: 0960-3271

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The i.p. administration of cysteine, N-acetylcysteine, the Me, iso-Pr, cyclo pentyl, neo pentyl, cyclo hexyl and tert-Bu esters of cysteine and of cystine di-Me ester increased the levels of total non-protein sulphhydryls and cysteine in the bronchioalveolar lavage fluid and plasma of rats. In all cases the non-protein sulphhydryl levels reflected the increased cysteine levels. Cysteine, N-acetylcysteine, the cysteine esters and cystine di-Me ester raised the levels of non-protein sulphhydryls and hence cysteine in the bronchioalveolar lining fluid as follows: CIPE > CCPE > CME > CDME > CneoPE > CCHE > Nac > CySH > CTBE. Plasma levels of NPSH were increased as follows: Nac > CySH > CCPE > CCHE > CneoPE > CIPE > CME > CDME > CTBE. All except CTBE have been shown to protect against the lethal effects of inhaled perfluoroisobutene, a pyrolysis product of polytetrafluoroethene which induces a fulminating pulmonary edema. This study showed that by raising the levels of thiols

in the bronchioalveolar lavage fluid (BALF), the epithelial cells lining the bronchiolar, alveolar regions of the lung could be protected against inhaled toxicants. It is proposed that increased thiol levels in the BALF may contribute to the overall protection induced by these compds. by reacting with inhaled electrophiles to prevent or reduce damage to tissue in close proximity to the airways.

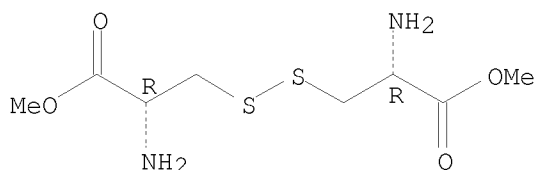
IT 1069-29-0, L-Cystine dimethyl ester

RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(thiol levels in bronchioalveolar lavage fluid after administration of cysteine esters)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 54 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:260253 CAPLUS

DOCUMENT NUMBER: 122:48633

ORIGINAL REFERENCE NO.: 122:9245a,9248a

TITLE: Cysteine esters protect cultured rodent lung slices from sulfur mustard

AUTHOR(S): Wilde, Paul E.; Upshall, David G.

CORPORATE SOURCE: Biology Division, Chemical and Biological Defence Establishment, Porton Down/Salisbury/Wiltshire, SP4 0JQ, UK

SOURCE: Human & Experimental Toxicology (1994), 13(11), 743-8
CODEN: HETOE; ISSN: 0960-3271

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The cyclopentyl (CCPE), cyclohexyl (CCHE), iso-Pr (CIPE), Me (CME) esters of cysteine, cystine di-Me ester (CDME), cysteine (CySH) and N-acetyl cysteine (NAC) were all non-toxic to cultured rat lung slices at 5 mM (equivalent cysteine concentration) after a pretreatment time of 30 min. Pretreatment with the iso-Pr, cyclohexyl, cyclopentyl and Me esters of cysteine at concns. higher than 1 mM protected against an IC50 of sulfur mustard, however, neither cysteine nor N-acetylcysteine protected. The authors propose that the extent of protection is directly related to increased levels of intracellular cysteine provided by the esters of cysteine.

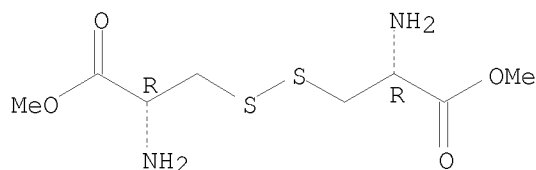
IT 1069-29-0, Cystine dimethyl ester

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cysteine esters protect lung from sulfur mustard toxicity)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 55 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:207302 CAPLUS

DOCUMENT NUMBER: 122:3048

ORIGINAL REFERENCE NO.: 122:727a, 730a

TITLE: Metabolism of 2-(glutathion-S-yl)hydroquinone and 2,3,5-(triglutathion-S-yl)hydroquinone in the in situ perfused rat kidney: relationship to nephrotoxicity

AUTHOR(S): Hill, Barbara A.; Davison, Kenneth L.; Dulik, Deanne M.; Monks, Terrence J.; Lau, Serrine S.

CORPORATE SOURCE: Coll. Pharm., Univ. Texas, Austin, TX, 78712, USA

SOURCE: Toxicology and Applied Pharmacology (1994), 129(1), 121-32

CODEN: TXAPA9; ISSN: 0041-008X

PUBLISHER: Academic

DOCUMENT TYPE: Journal

LANGUAGE: English

AB 2,3,5-(Triglutathion-S-yl)hydroquinone [2,3,5-(triGSyl)HQ] (20 $\mu\text{mol/kg}$) and 2-(glutathion-S-yl)hydroquinone [2-(GSyl)HQ] (250 $\mu\text{mol/kg}$) both cause nephrotoxicity when administered to male rats, although the former is considerably more potent than the latter. To address the issue of the differential potency of these conjugates we investigated the metabolism and toxicity of 2,3,5-(triGSyl)HQ and 2-(GSyl)HQ in the in situ perfused rat kidney. Infusion of 5 and 10 μmol 2,3,5-(triGSyl)HQ into the right renal artery caused a time-dependent elevation in γ -glutamyl transpeptidase (γ -GT) excretion into urine produced by both the perfused and the contralateral kidneys. At the lower concentration, γ -GT excretion was greater from the perfused kidney, whereas γ -GT excretion from the perfused and contralateral kidneys was the same at the higher concentration. Using HPLC-EC to analyze urine and bile, metabolites, of 2,3,5-(triGSyl)HQ (10 μmol) were observed only within the first 30 min of perfusion. At the lower dose (5 μmol) neither parent compound nor metabolites were found in urine or bile. Infusion of 40 μmol 2-(GSyl)HQ into the right renal artery also caused a time-dependent excretion of γ -GT into urine: excretion being greater from the perfused kidney. HPLC-EC anal. of urine and bile from 2-(GSyl)HQ perfused kidneys demonstrated the formation of three known metabolites; 2-(N-acetylcystein-S-yl)HQ ($9.2 \pm 0.5 \mu\text{mol}$), 2-(cystein-S-ylglycine)HQ ($0.8 \pm 0.3 \mu\text{mol}$), and 2-(cystein-S-yl)HQ ($1.3 \pm 0.3 \mu\text{mol}$). Unchanged 2-(GSyl)HQ was detected in the urine and bile ($0.8 \pm 0.1 \mu\text{mol}$). A greater fraction of the dose (74%) was recovered in urine following infusion of 40 μmol 2-(GSyl)[^{14}C]HQ than of 10 μmol 2,3,5-(triGSyl)[^{14}C]HQ (29%). In contrast, a greater fraction of the dose was retained by the kidney following treatment with 10 μmol 2,3,5-(triGSyl)[^{14}C]HQ than following treatment with 40 μmol 2-(GSyl)[^{14}C]HQ (36 and 11%, resp.). This result suggests that metabolites derived from 2,3,5-(triGSyl)[^{14}C]HQ are more reactive than those derived from 2-(GSyl)[^{14}C]HQ, which is consistent with the finding that 2,3,5-(tricysteine-S-yl)hydroquinone exhibits a lower oxidation potential than 2-(cystein-S-yl)hydroquinone. Differences in the reactivity of the metabolites derived from 2,3,5-(triGSyl)[^{14}C]HQ and 2-(GSyl)[^{14}C]HQ probably account for the more potent nephrotoxicity of 2,3,5-(triGSyl)HQ.

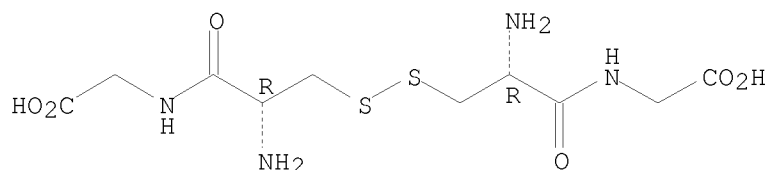
IT 7729-20-6

RL: RCT (Reactant); RACT (Reactant or reagent)

(glutathionylhydroquinone metabolites and the synthesis of these

metabolites)
RN 7729-20-6 CAPLUS
CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 56 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:173820 CAPLUS

DOCUMENT NUMBER: 122:7409

ORIGINAL REFERENCE NO.: 122:1710h,1711a

TITLE: Lipophilic multiple antigen peptide system for peptide immunogen and synthetic vaccine

AUTHOR(S): Huang, Wolin; Nardelli, Bernardetta; Tam, James P.

CORPORATE SOURCE: Dep. Microbiol. Immunol., Vanderbilt Univ., Nashville, TN, 37232-2363, USA

SOURCE: Molecular Immunology (1994), 31(15), 1191-9

CODEN: MOIMD5; ISSN: 0161-5890

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The development and structural requirements are described of a new lipophilic multiple antigen peptide (lipoMAP) system for immunogens that contains a built-in lipophilic adjuvant and has the ability to elicit cytotoxic T-lymphocytes (CTLs). In addition to the peptide antigens of choice at the amino terminus, the basic lipoMAP design consists of three components: a tetravalent sym. core matrix containing two levels of branching β -alanine-lysine as a building unit, a hydrophilic Ser-Ser dipeptide linker, and at the carboxyl terminus, palmitoyl lysines (PL) with alternating chirality. An 18-residue peptide from the third variable region in the gp120 or HIV-1 was used as antigen in eight models for a structure-function study. Alternating palmitoyl lysine (PL) was introduced as the lipid anchor and built-in adjuvant because D and L Lys (Pal) was found via mol. modeling to best mimic phosphatidylcholine and thus provide the most stable peptide antigens on the ordered lipid membranes. The requirements of the palmitoyl lysines and the L-Ser-L-Ser linker were crucial, since replacement with palmitoyl serines or L-Ser-D-Ser linkers led to a marked decrease in immune response. The stoichiometric ratio of PL vs. MAP was also important. Multiple antigen peptide (MAP) constructs without the lipophilic PLs, those that were underlipidated and contained one PL, or those that were overlipidated containing four PLs, were ineffective. LipoMAPS containing three palmitic acids

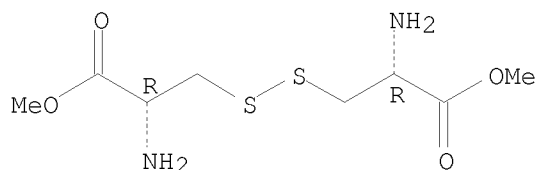
elicited significant humoral responses in oil-based emulsion and liposomes, but not in water or alum formulations. LipoMAP containing only two PLs was found best to be incorporated in liposomes and elicited a significant immune response and cytotoxic T-lymphocytes (CTLs). These models were compared favorably with a precipitation using

tripalmitoyl-S-glyceryl

cysteine (P3C) as the lipid anchor. A modular synthesis of MAP-P3C was developed that incorporated in liposomes and elicited a significant immune response and cytotoxic T-lymphocytes (CTLs). A modular synthesis of MAP-P3C was also developed that incorporated P3C as a pre-made unit containing a thiopyridine, which simplified the overall scheme and minimized oxidation during stepwise peptide synthesis.

IT 18598-59-9
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (in lipophilic multiple antigen peptide system preparation for peptide
 immunogen and synthetic vaccine for HIV-1 virus)
 RN 18598-59-9 CAPLUS
 CN L-Cystine, dimethyl ester, monohydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.



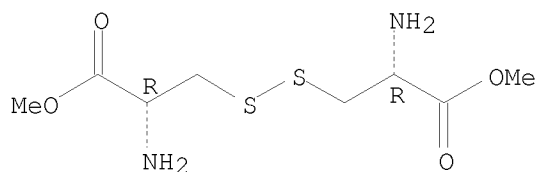
● HCl

L5 ANSWER 57 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1995:97804 CAPLUS
 DOCUMENT NUMBER: 122:31891
 ORIGINAL REFERENCE NO.: 122:6303a,6306a
 TITLE: Metal-ion promoted hydrolysis of amino acid esters
 AUTHOR(S): Islam, M. Shariful; Shafique, Nasima; Chakraborty,
 Haribal; Rahman, M. Lutfor
 CORPORATE SOURCE: Department of Chemistry, University of Rajshahi,
 Rajshahi, Bangladesh
 SOURCE: Journal of the Bangladesh Chemical Society (1994),
 7(1), 1-14
 CODEN: JBLSEH; ISSN: 1022-016X
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Kinetics of hydrolysis of amino acid esters such as Me esters of glycine, tyrosine, methionine and histidine, di-Me ester of cystine, and Et ester of cysteine have been studied in presence of metal ions like Cu(II), Zn(II), Ni(II), Co(II) and Mn(II). It has been found that the hydrolysis reactions are first order in [ester] and first order in [OH-] and that the rate is also dependent on the metal ion concentration. Catalytic activities of the metal ions have been discussed in terms of the bonding in the intermediate complexes and their formation consts.

IT 32854-09-4, Cystine dimethyl ester dihydrochloride
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (kinetics of metal-ion promoted hydrolysis of amino acid esters)
 RN 32854-09-4 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 58 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:89093 CAPLUS
DOCUMENT NUMBER: 122:81932
ORIGINAL REFERENCE NO.: 122:15587a,15590a
TITLE: Catalytic activities of Schiff base aquocomplexes of copper(II) in the hydrolysis of amino acid esters
AUTHOR(S): Chakraborty, Haribal; Paul, Niranjan; Rahman, M. Lutfor
CORPORATE SOURCE: Department Chemistry, Rajshahi University, Rajshahi, 6205, Bangladesh
SOURCE: Transition Metal Chemistry (Dordrecht, Netherlands) (1994), 19(5), 524-6
CODEN: TMCHDN; ISSN: 0340-4285
DOCUMENT TYPE: Journal
LANGUAGE: English

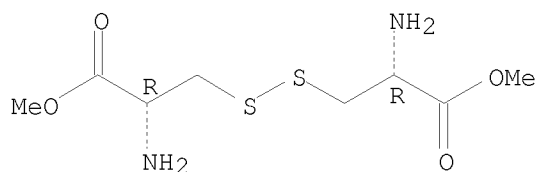
AB Solid aquo CuII complexes of Schiff bases derived from amino acids have been prepared and characterized. Using a pH-stat method, the kinetics of base hydrolysis of 6 amino acid esters were studied. The complexes enhanced the rate of hydrolysis substantially, the values of the second-order rate consts. being 10-50 times greater than those obtained in the presence of the simple CuII ion.

IT 32854-09-4, Cystine, dimethyl ester, dihydrochloride
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
(catalytic activity of aquocopper Schiff base complexes in hydrolysis of amino acid esters)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 59 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:28991 CAPLUS
DOCUMENT NUMBER: 122:208363
ORIGINAL REFERENCE NO.: 122:37925a,37928a
TITLE: The effect of compounds related to penicillin G biosynthesis on the in vitro formation and bioassay of isopenicillin N
AUTHOR(S): Meesschaert, B.; Alvarez-Ruiz, E.; Martin, J. F.
CORPORATE SOURCE: Laboratory Biochemistry and Microbiology, Catholic Polytechnic West-Flanders, Oostende, 8400, Belg.
SOURCE: Mededelingen - Faculteit Landbouwkundige en Toegepaste Biologische Wetenschappen (Universiteit Gent) (1993), 58(4B), 1973-80
CODEN: MFLBER; ISSN: 1373-7503
DOCUMENT TYPE: Journal
LANGUAGE: English

AB L-cysteine, L-cysteiny-L-valine and L-cysteiny-L-D-valine showed an apparent inhibition of the isopenicillin N synthase that was due to inactivation of isopenicillin N during bioassay. In contrast to their

phenylacetylated analogs (prepared by a new chemical synthesis procedure), these aminothiols caused a concentration and pH-dependent hydrolysis of the β -lactam ring. Other compds. related to the biosynthetic pathway of the penicillins, such as α -aminoadipic acid, phenylacetic acid, L-valine, isopenicillin N, penicillin G, 6-aminopenicillanic acid and their corresponding penicilloic acids did not show any effect on the isopenicillin N synthase of *Penicillium chrysogenum*.

IT 21141-84-4 71301-35-4

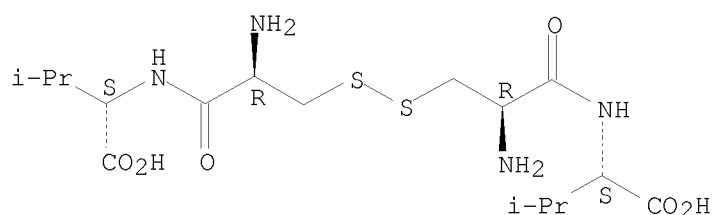
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent)

(aminoadipyl-L-cysteinyl-D-valine analog effects on isopenicillin N synthase and the bioassay of isopenicillin N)

RN 21141-84-4 CAPLUS

CN L-Valine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

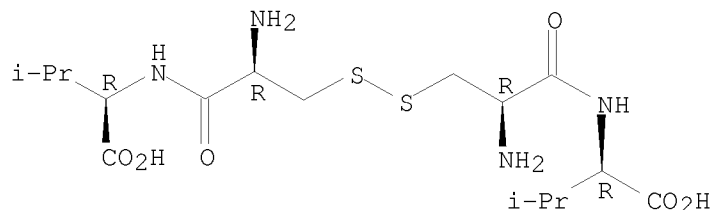
Absolute stereochemistry.



RN 71301-35-4 CAPLUS

CN D-Valine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 60 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:18094 CAPLUS

DOCUMENT NUMBER: 122:10536

ORIGINAL REFERENCE NO.: 122:2341a,2344a

TITLE: Amino acids and peptides. XXI. Laminin-related peptide analogs including poly(ethylene glycol) hybrids and their inhibitory effect on experimental metastasis

AUTHOR(S): Kawasaki, Koichi; Murakami, Tomohiko; Namikawa, Machiko; Mizuta, Toyohiko; Iwai, Yuzi; Yamashiro, Yuko; Hama, Takao; Yamamoto, Susumu; Mayumi, Tadanori
CORPORATE SOURCE: Fac. Pharm. Sci., Kobe Gakuin Univ., Kobe, 651-21, Japan

SOURCE: Chemical & Pharmaceutical Bulletin (1994), 42(4), 917-21

CODEN: CPBTAL; ISSN: 0009-2363

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Laminin-related peptides, Tyr-Ile-Gly-Ser-Arg analogs, were prepared and their inhibitory effects on exptl. metastasis were examined. Of the amino acids in the Tyr-Ile-Gly-Ser-Arg sequence, L-Arg was very important and Ile was not essential for the inhibitory effect. To obtain a potent inhibitor of metastasis, hybrids of Tyr-Ile-Gly-Ser-Arg-Gly and 2 types of poly(ethylene glycol) were prepared. The inhibitory effects of the hybrids were more potent than that of Tyr-Ile-Gly-Ser-Arg-Gly.

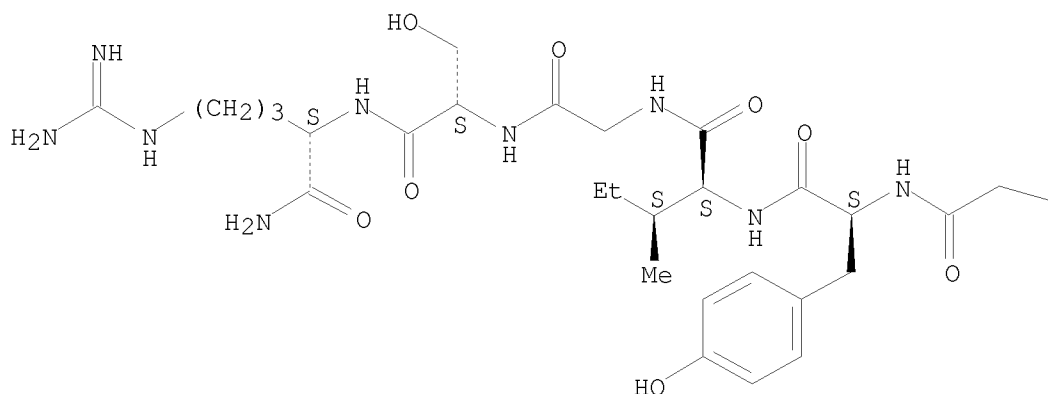
IT 159488-08-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and metastasis inhibitory activity of)

RN 159488-08-1 CAPLUS

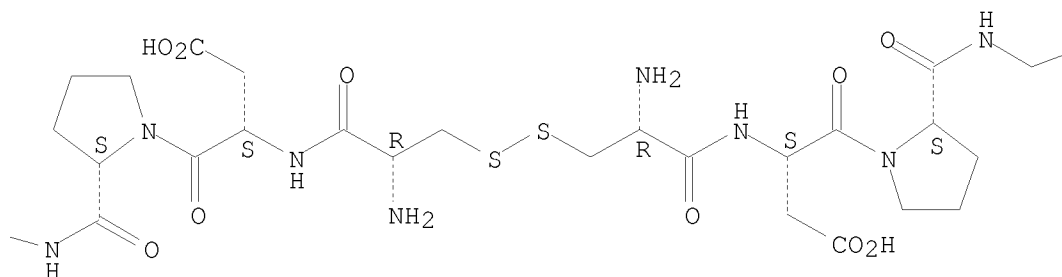
CN L-Argininamide, L-cysteinyl-L- α -aspartyl-L-prolylglycyl-L-tyrosyl-L-isoleucylglycyl-L-seryl-, bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

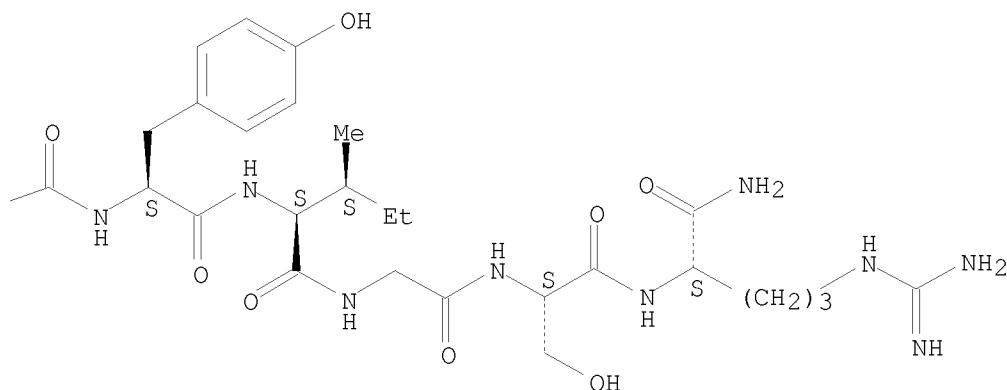
Absolute stereochemistry.

PAGE 1-A



PAGE 1-B





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L5 ANSWER 61 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1994:701288 CAPLUS

DOCUMENT NUMBER: 121:301288

ORIGINAL REFERENCE NO.: 121:55173a, 55176a

TITLE: Zinc complexes of amino acids and peptides. 4. Zinc complexes of peptides with C-terminal cysteine

AUTHOR(S): Meissner, Axel; Gockel, Peter; Vahrenkamp, Heinrich

CORPORATE SOURCE: Institut fuer Anorganische und Analytische Chemie, Universitaet Freiburg, Freiburg, D-79104, Germany

SOURCE: Chemische Berichte (1994), 127(7), 1235-41

CODEN: CHBEAM; ISSN: 0009-2940

DOCUMENT TYPE: Journal

LANGUAGE: German

AB The cysteine derivs. Ac-X-Cys-OH (I; X = bond, Gly, Ala, Gly-Gly), with unprotected SH and CO₂H functions (LH₂) were prepared by the mixed anhydride method. Reactions of I with basic zinc carbonate resulted in the formation of complexes Zn(LH)₂ which were converted by KOH to complexes K₂[ZnL₂]. Potentiometric titrns. revealed ZnL and [ZnL₂]²⁻ as the major solution species. The pD-dependent NMR measurements (¹H, ¹³C) in D₂O indicated carboxylate coordination in acidic solution, and carboxylate and thiolate coordination in neutral and basic solution

IT 38261-78-8P, Cystine di-tert-butyl ester dihydrochloride

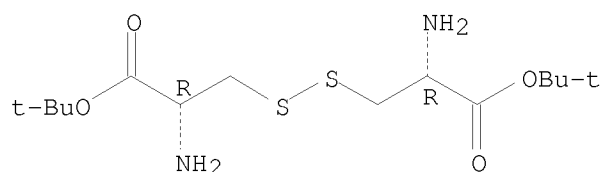
RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation, peptide coupling reactions, deesterification, and disulfide reduction of)

RN 38261-78-8 CAPLUS

CN L-Cystine, 1,1'-bis(1,1-dimethylethyl) ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



● 2 HCl

L5 ANSWER 62 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1994:613038 CAPLUS

DOCUMENT NUMBER: 121:213038

ORIGINAL REFERENCE NO.: 121:38651a, 38654a

TITLE: Crosslinkable derivatives of collagen, process for their preparation, and their use in the preparation of biomaterials for prostheses or other medical articles

INVENTOR(S): Gagnieu, Christian

PATENT ASSIGNEE(S): Flamel Technologies, S. A., Fr.

SOURCE: Eur. Pat. Appl., 16 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 575273	A1	19931222	EP 1993-420255	19930617
EP 575273	B1	19971203		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
FR 2692582	A1	19931224	FR 1992-7692	19920618
FR 2692582	B1	19980918		
US 5412076	A	19950502	US 1993-77605	19930617
AT 160798	T	19971215	AT 1993-420255	19930617
ES 2113511	T3	19980501	ES 1993-420255	19930617
JP 06080935	A	19940322	JP 1993-148108	19930618
PRIORITY APPLN. INFO.:			FR 1992-7692	A 19920618

AB Crosslinkable collagens are disclosed which are soluble in water and/or aprotic polar organic solvents; the collagens have a free or substituted thiol function on residues of cysteine or derivs. thereof (homocysteine, cysteamine, etc.), the residues being bonded to collagen at least in part via a spacer compd (e.g. a dicarboxylic acid). Preparation of the modified collagens is also provided. The modified collagens are useful for biomaterials for medical articles (prostheses, implants, etc.). Thus, a cysteaminy succinyl collagen was prepared using bovine atelocollagen types I and III and disuccinylcystamine. The product was used in the formulation of a gel and of a film. Ex vivo evaluation of tissue adhesion (with rabbit muscle tissue) using a product of the invention is also described.

IT 1069-29-0DP, Cystine dimethyl ester, reaction products with succinyl atelocollagen

RL: PREP (Preparation)

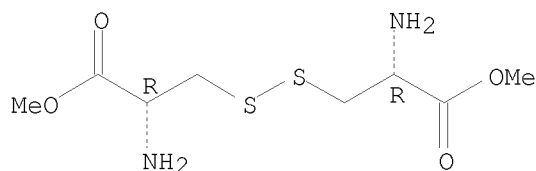
(preparation of, for crosslinkable collagen thiol derivative for biomaterial for

prosthetic or other medical article)

RN 1069-29-0 CAPLUS

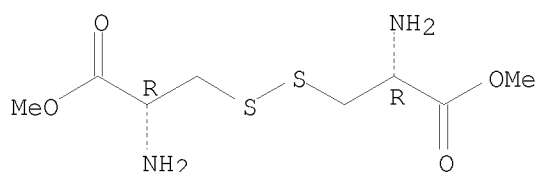
CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



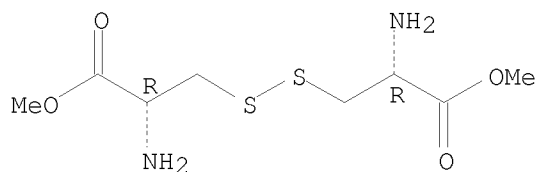
IT 1069-29-0, Cystine dimethyl ester
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, in crosslinkable collagen thiol derivative preparation for
 biomaterial for prosthetic or other medical article)
 RN 1069-29-0 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



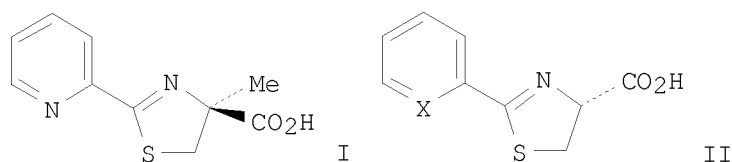
L5 ANSWER 63 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1994:605955 CAPLUS
 DOCUMENT NUMBER: 121:205955
 ORIGINAL REFERENCE NO.: 121:37521a,37524a
 TITLE: Kinetics of hydrolysis of amino acid esters in the
 presence of aquocomplexes involving ethylenediamine,
 diethylenetriamine and triethylenetetramine ligands.
 Part 2. Cobalt(II), cobalt(III), platinum(II) and
 palladium(II)
 AUTHOR(S): Chakraborty, Haribal; Rahman, M. Lutfor
 CORPORATE SOURCE: Dep. Chem., Rajshahi Univ., Rajshahi, 6205, Bangladesh
 SOURCE: Transition Metal Chemistry (Dordrecht, Netherlands)
 (1994), 19(5), 481-3
 CODEN: TMCHDN; ISSN: 0340-4285
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Aquocomplexes of cobalt(II), cobalt(III), palladium(II), and platinum(II)
 involving ethylenediamine, (H₂NCH₂CH₂)₂NH, and (H₂NCH₂CH₂NHCH₂)₂ as
 ligands were prepared and characterized. The kinetics of base hydrolysis of
 the amino acid esters H-X-OMe.HCl (X = Gly, Tyr, Met, His) H-Cys-OEt.HCl,
 and cystine di-Me ester .2HCl in the presence of these complexes have been
 studied. The rate of hydrolysis is influenced substantially by these
 complexes and the second order rate consts. are some 10-90 times greater
 than those obtained in the presence of simple metal ions.
 IT 32854-09-4, Cystine dimethyl ester dihydrochloride
 RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
 (kinetics of hydrolysis of amino acid esters in the presence of cobalt,
 platinum, and palladium aquocomplexes involving ethylenediamine,
 diethylenetriamine and triethylenetetramine ligands)
 RN 32854-09-4 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 64 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1994:580145 CAPLUS
 DOCUMENT NUMBER: 121:180145
 ORIGINAL REFERENCE NO.: 121:32731a, 32734a
 TITLE: An Investigation of Desferrithiocin Metabolism
 AUTHOR(S): Bergeron, Raymond J.; Wollenweber, Markus; Wiegand, Jan
 CORPORATE SOURCE: Department of Medicinal Chemistry, University of Florida, Gainesville, FL, 32610, USA
 SOURCE: Journal of Medicinal Chemistry (1994), 37(18), 2889-95
 CODEN: JMCMAR; ISSN: 0022-2623
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI

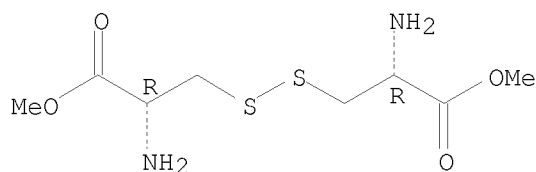


AB The hydrolyses of (S)-desferrithiocin (I), (R)-desmethyldesferrithiocin (II; X = N), and (R)-desazadesmethyldesferrithiocin (II; X = CH) were studied at pH 2.5 and 7.2 to access the stability of the thiazolines at the pH of the stomach and the serum. At 37° and pH 2.5, I and II open principally to the thiol amides with trace amts. (≤2%) of the corresponding thioesters. The thiazolines were resistant to hydrolysis at pH 7.2. Iron(III) stabilized significantly the thiazolines in the complexes of II (X = CH) in regard to hydrolysis at pH 2.5. The iron(III) complexes were stable at pH 7.2. While the thio amides from I and II (X = N) were isolated from the hydrolysis of the parent desferrithiocins, the thioester and thiol amide from II (X = CH) were chemical synthesized and their stability in aqueous solution, iron-clearance property, and toxicity were evaluated. Thioester H-L-Cys(COC6H4OH-2)-OH (III) rearranges to thiol amide 2-HOC6H4CO-L-Cys-OH (IV) at pH 2.5 and 37 °C with a half-life of 4.18 h and instantaneously at pH 7.2. Thiol amide IV is in equilibrium with III at pH 2.5 and is stable at pH 7.2. Thioester III and thiol amide IV demonstrated neither iron-clearance activity in iron-overloaded rats nor toxic side effects in mice. Hydrolysis products of the drug, which might be generated in the stomach, seem unlikely to be the source of the drug toxicity.

IT 32854-09-4, L-Cystine dimethyl ester dihydrochloride
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (amidation of, with acetylsalicyloyl chloride)

RN 32854-09-4 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

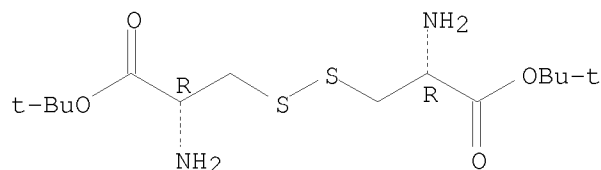
Absolute stereochemistry.



● 2 HCl

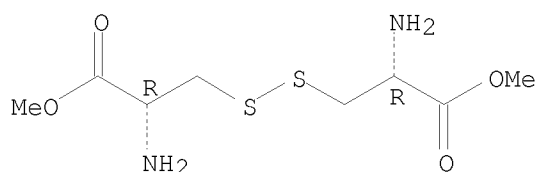
IT 62574-13-4, L-Cystine di-tert-butyl ester
RL: RCT (Reactant); RACT (Reactant or reagent)
(butoxycarbonylation of)
RN 62574-13-4 CAPLUS
CN L-Cystine, 1,1'-bis(1,1-dimethylethyl) ester (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



L5 ANSWER 65 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1994:534746 CAPLUS
DOCUMENT NUMBER: 121:134746
ORIGINAL REFERENCE NO.: 121:24389a,24392a
TITLE: Synthesis of S-trifluoromethyl-containing
 α -amino acids from sodium
trifluoromethanesulfinate and dithio-amino acids
AUTHOR(S): Langlois, Bernard; Montegre, Denis; Roidot, Nathalie
CORPORATE SOURCE: Universite Claude Bernard-Lyon I, Laboratoire de
Chimie Organique 3, associe au CNRS, 43 Bd. du 11
Novembre 1918, Villeurbanne, F-69622, Fr.
SOURCE: Journal of Fluorine Chemistry (1994), 68(1), 63-6
CODEN: JFLCAR; ISSN: 0022-1139
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 121:134746
AB N-Protonated or N-acetylated di-Me cystinates and homocystinates react
with CF₃SO₂Na and Me₃COOH to yield the corresponding
S-(trifluoromethyl)cystine and -homocysteine esters in a stereospecific
manner. The esters are readily saponified without racemization by NaHCO₃ in
aqueous MeOH.
IT 32854-09-4, Cystine dimethyl ester dihydrochloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(S-trifluoromethylation of, with sodium trifluoromethanesulfinate and
peroxide, (trifluoromethyl)cysteine ester from)
RN 32854-09-4 CAPLUS
CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 66 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1994:491333 CAPLUS
 DOCUMENT NUMBER: 121:91333
 ORIGINAL REFERENCE NO.: 121:16263a,16266a
 TITLE: Cosmetic composition for promoting hair growth
 INVENTOR(S): Gibson, Walter Thomas; Kealey, George Terence Evelyn;
 Westgate, Gillian Elizabeth
 PATENT ASSIGNEE(S): Unilever PLC, UK; Unilever N. V.
 SOURCE: PCT Int. Appl., 68 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

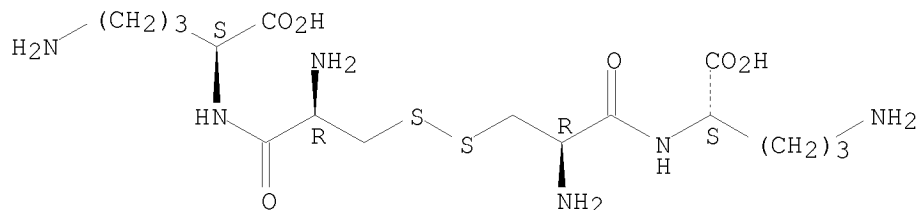
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9409750	A1	19940511	WO 1993-GB2210	19931027
W: AT, AU, BB, BG, BR, BY, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, LV, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, UZ, VN				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2146348	A1	19940511	CA 1993-2146348	19931027
AU 9453426	A	19940524	AU 1994-53426	19931027
ZA 9308000	A	19950428	ZA 1993-8000	19931027
EP 666729	A1	19950816	EP 1993-923626	19931027
R: CH, DE, ES, FR, GB, IT, LI, NL, SE				
JP 08502509	T	19960319	JP 1993-510821	19931027
CN 1091952	A	19940914	CN 1993-119716	19931029
PRIORITY APPLN. INFO.:			GB 1992-22772	A 19921030
			WO 1993-GB2210	W 19931027

AB A cosmetic composition for topical application to mammalian skin or hair, especially to a bald or balding human scalp, contains a metabolic intermediate from the urea cycle, or a derivative of such an intermediate, as an active agent serving to promote growth of hair. The metabolic intermediate may be arginine, ornithine, citrulline, argininosuccinate, or ester, alkyl, acyl, phospho, or peptide derivs. or salts of these amino acids. Thus, the average rate of hair growth from isolated follicles in the presence of 1 mM ornithine plus 2 mM glutamine (a known hair growth stimulant) was 0.316 mm/day, i.e. 31.1% higher than with glutamine alone. A shampoo for stimulating hair growth contained Na lauryl ether sulfate 41.4, lauryldimethylaminoacetic acid betaine 4, coco fatty acid diethanolamide 1.5, Briphos 03D 1, Polyquart H 1.5, L-tyrosylarginine 10, preservative, coloring agent, salt, perfume, and water to 100 weight%.

IT 156637-60-4
 RL: BIOL (Biological study)
 (as hair growth stimulant)
 RN 156637-60-4 CAPLUS

CN L-Ornithine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 67 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1994:460246 CAPLUS

DOCUMENT NUMBER: 121:60246

ORIGINAL REFERENCE NO.: 121:10809a,10812a

TITLE: Cationic surfactants containing a disulfide in the molecule and their preparation

INVENTOR(S): Infante Martinez-Pardo, Maria Rosa; Pinazo Gassol, Aurora; Diz Vaz, Manuela; Erra Serrabasa, Pilar

PATENT ASSIGNEE(S): Consejo Superior Investigaciones Cientificas, Spain

SOURCE: PCT Int. Appl., 16 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Spanish

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9316991	A1	19930902	WO 1993-ES11	19930224
W: AU, CA, JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9336329	A	19930913	AU 1993-36329	19930224
PRIORITY APPLN. INFO.:			ES 1992-443	A 19920228
			WO 1993-ES11	A 19930224

OTHER SOURCE(S): MARPAT 121:60246

AB The surfactants [R2R3R4N+(CH2)mCONHCHR1(CH2)nS-]2.2X- [m, n = 1-4; R1 = H, CO2R5; R2-3, R5 = H, alkyl; R4 = (OH-containing) C≤20 hydrocarbyl] are prepared by condensation of carboxylate of an N-alkyl-N,N-dialkylaminobetaine and amino of a diaminoalkyldisulfide and are useful for textile treatment and cosmetics (no data). Thus, a surfactant was prepared from lauryl dimethylaminobetaine chloride, iso-Bu chloroformate, and dimethyl-L-cystine chloride in N-Me morfoline.

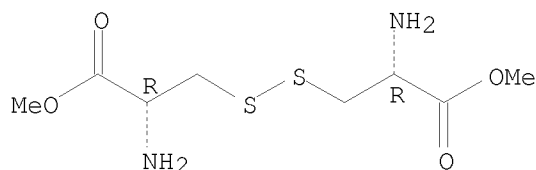
IT 22888-38-6

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with lauryl dimethylaminobetaine chloride, for cationic surfactants)

RN 22888-38-6 CAPLUS

CN L-Cystine, dimethyl ester, hydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.

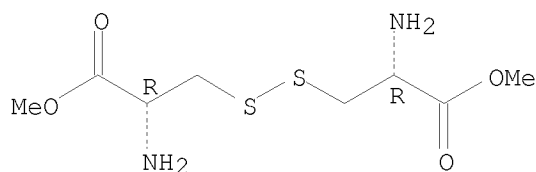


● x HCl

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 68 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1994:442666 CAPLUS
 DOCUMENT NUMBER: 121:42666
 ORIGINAL REFERENCE NO.: 121:7677a,7680a
 TITLE: Synthesis of amino-acid segmented polyetherurethane and its film modified by heparin
 AUTHOR(S): Yang, Fuliang; Han, Yongxin; Feng, Xinde
 CORPORATE SOURCE: Dep. Chem., Peking Univ., Beijing, Peop. Rep. China
 SOURCE: Beijing Daxue Xuebao, Ziran Kexueban (1993), 29(6), 695-8
 CODEN: PCTHAP; ISSN: 0479-8023
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese
 AB SPEU-I and II were novel antithrombogenic polyetherurethane materials. Polyetherurethane (SPEU) was segmented with L-Lysine Me ester (L-Lys-OMe) or L-Cystine di-Me ester (L-Cys-diOMe) as extenders. Heparin is covalently bounded on the SPEU film surface which can improve the antithrombosis of film. The exptl. results showed that both SPEU-I and SPEU-II products with the yields above 90%. Their IR, dynamic mech. properties and anticoagulant activities were measured. Both SPEU-I and SPEU-II have good blood compatibility and their morphol. research results by the SEM photographs of the grafted films. After graft copolymd. with heparin, the SPEU films become opaque and the scanning electron micrographs clearly showed surface graft copolymn. of the films.
 IT 1069-29-0P, L-Cystine dimethyl ester
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses) (preparation and anticoagulant activity of)
 RN 1069-29-0 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 69 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1994:307200 CAPLUS
 DOCUMENT NUMBER: 120:307200
 ORIGINAL REFERENCE NO.: 120:53893a,53896a
 TITLE: Water-soluble polyamides as potential drug carriers.

VII. Synthesis of polymers containing intrachain- or extra-chain-type amine ligands by interfacial polymerization

AUTHOR(S): Chiba, Urvashi; Neuse, Eberhard W.; Swarts, Jannie C.; Lamprecht, Gert J.

CORPORATE SOURCE: Dep. Chem., Univ. Witwatersrand, Wits, 2050, S. Afr.
SOURCE: Angewandte Makromolekulare Chemie (1994), 214, 137-52
CODEN: ANMCBO; ISSN: 0003-3146

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Aliphatic polyamides comprising poly(ethylene oxide) chain segments of various lengths, designed for use as drug carriers, were prepared by interfacial polymerization of succinyl chloride with the 2 Jeffamine types ED-900

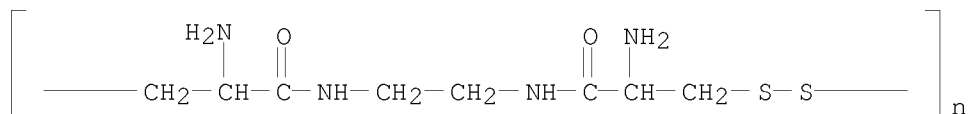
and ED-2001, formally described by the supplier as O,O'-bis(2-aminopropyl)poly(ethylene glycol) 800 and O,O'-bis(2-aminopropyl)poly(ethylene glycol) 1900. Copolyamides comprising both short-chain diamine and Jeffamine segments were similarly prepared, as were polyamides made up of cystine and diamine segments. The polymers were performed in a 2-phase CH₂Cl₂ system at temps. near or below 0°. The product polymers, crudely fractionated by staged aqueous-phase dialysis at an ultimate mol.-mass cut-off of 25,000, are collected after freeze-drying as water-soluble resins or solids and are characterized microanalytically and by 1H-NMR spectroscopy. Inherent viscosities are in the range of 10-20 mL g⁻¹. The drug-binding potential of a representative target polymer is probed by the covalent anchoring of a ferrocene compound used as a drug model, giving a water-soluble polymer-ferrocene conjugate.

IT 154559-25-8P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (preparation and properties of, as drug carrier)

RN 154559-25-8 CAPLUS

CN Poly[dithio(2-amino-3-oxo-1,3-propanediyl)imino-1,2-ethanediylimino(2-amino-1-oxo-1,3-propanediyl)] (9CI) (CA INDEX NAME)



L5 ANSWER 70 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1994:239227 CAPLUS

DOCUMENT NUMBER: 120:239227

ORIGINAL REFERENCE NO.: 120:42241a, 42244a

TITLE: New agents for cutaneous photoprotection: derivatives of α-amino acids, 4-aminobenzoic and 4-methoxycinnamic acids

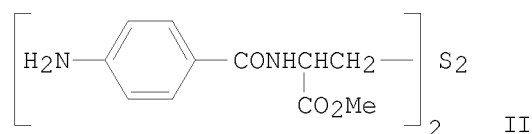
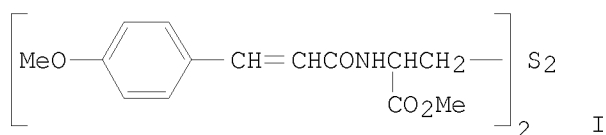
AUTHOR(S): Zhao, M. J.; Robert, D.; Jung, L.

CORPORATE SOURCE: Fac. Pharm., Univ. Louis Pasteur, Illkirch, 67401, Fr.
SOURCE: European Journal of Medicinal Chemistry (1993), 28(12), 949-54
CODEN: EJMCA5; ISSN: 0223-5234

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



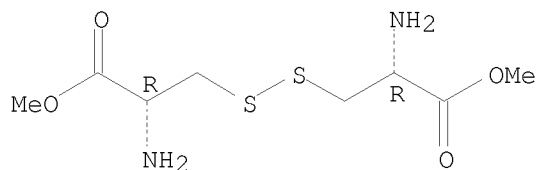
AB Derivs. of sulfur-containing or sulfur-free α -amino acids, 4-aminobenzoic and 4-methoxycinnamic acids, which are potential sunscreens, were prepared. The effects on melanin formation of 2 compds. (I and II) were studied via enzymic reactions and cell culture. I and II enhance pigmentation.

IT 32854-09-4, L-Cystine dimethyl ester dihydrochloride
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (amidation of, by methoxycinnamoyl chloride)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 71 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1994:218518 CAPLUS

DOCUMENT NUMBER: 120:218518

ORIGINAL REFERENCE NO.: 120:38845a,38848a

TITLE: A short serendipitous synthesis of minimal glucocorticoid receptor zinc template

AUTHOR(S): Ranganathan, Subramania; Jayaraman, Narayanaswamy; Roy, Raja; Madhusudana, K. P.

CORPORATE SOURCE: Dep. Chem., Indian Inst. Technol., Kanpur, 208 016, India

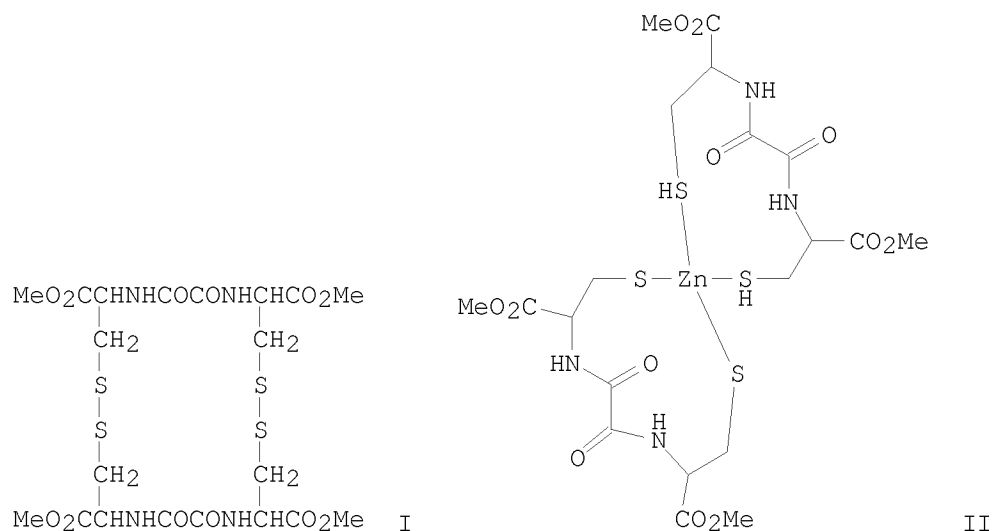
SOURCE: Tetrahedron Letters (1993), 34(48), 7801-4
 CODEN: TELEAY; ISSN: 0040-4039

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 120:218518

GI



AB The serendipitous formation of the novel, 20 membered, cyclo[bis-oxalylcystine] I on treatment of cystine di-OMe with oxalyl chloride has provided an exceptionally short route to the first synthesis of the glucocorticoid receptor zinc template II via propane-1,3-dithiol-mediated thiol-disulfide exchange and metal complexation with ZnCl₂.

IT 32854-09-4, Cystine dimethyl ester dihydrochloride

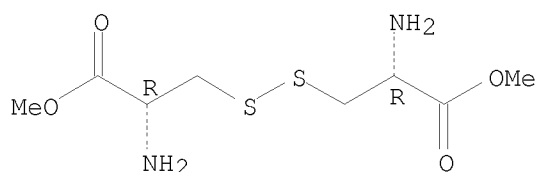
RL: RCT (Reactant); RACT (Reactant or reagent)

(reactant, in serendipitous synthesis of minimal glucocorticoid receptor zinc template)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 72 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1994:165103 CAPLUS

DOCUMENT NUMBER: 120:165103

ORIGINAL REFERENCE NO.: 120:29157a,29160a

TITLE: Novel polyamides from L-cystine

AUTHOR(S): Bechaouch, Soufiane; Coutin, Bernard; Sekiguchi, Hikaru

CORPORATE SOURCE: Lab. Chim. Macromol., Univ. Pierre et Marie Curie, Paris, 75252, Fr.

SOURCE: Macromolecular Rapid Communications (1994), 15(2), 125-31

CODEN: MRCOE3; ISSN: 1022-1336

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The nonpeptide polymers were prepared by copolymerization of L-cystine (I) in which the acid functionality had been blocked with I in which the amine functionality had been blocked, forming polyamides which could then be selectively unblocked to provide pendent NH₂ or COOH groups. Complete deprotection gives a polyampholyte with internal salt formation. These polymers have potential usefulness as drug delivery systems.

IT 85006-27-5P, Cystine dibenzyl ester di-p-toluenesulfonate

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and copolymerization of)

RN 85006-27-5 CAPLUS

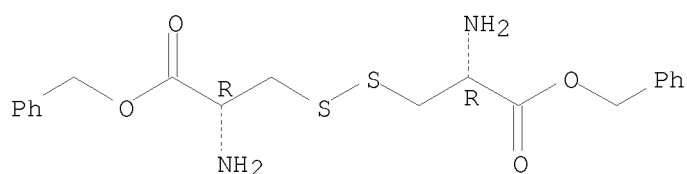
CN L-Cystine, bis(phenylmethyl) ester, bis(4-methylbenzenesulfonate) (9CI)
(CA INDEX NAME)

CM 1

CRN 85006-26-4

CMF C20 H24 N2 O4 S2

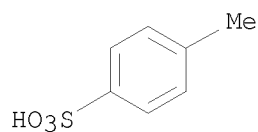
Absolute stereochemistry.



CM 2

CRN 104-15-4

CMF C7 H8 O3 S



IT 153696-45-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and selective or complete deprotection of)

RN 153696-45-8 CAPLUS

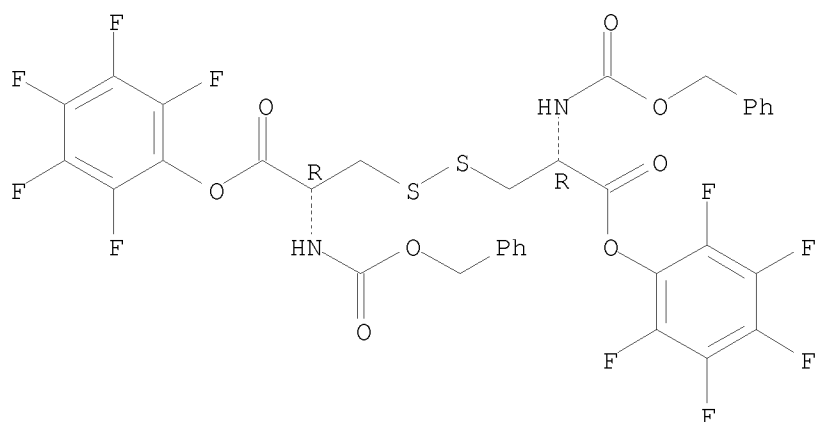
CN L-Cystine, N,N'-bis[(phenylmethoxy)carbonyl]-, bis(pentafluorophenyl) ester, polymer with L-cystine bis(phenylmethyl) ester bis(4-methylbenzenesulfonate) (9CI) (CA INDEX NAME)

CM 1

CRN 153696-44-7

CMF C34 H22 F10 N2 O8 S2

Absolute stereochemistry.

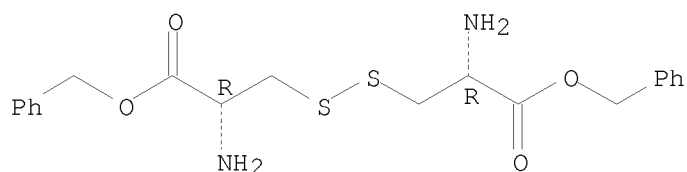


CM 2

CRN 85006-26-4

CMF C20 H24 N2 O4 S2

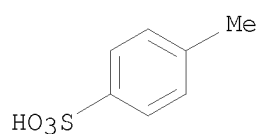
Absolute stereochemistry.



CM 3

CRN 104-15-4

CMF C7 H8 O3 S



L5 ANSWER 73 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1994:128288 CAPLUS

DOCUMENT NUMBER: 120:128288

ORIGINAL REFERENCE NO.: 120:22481a

TITLE: The glutamyl binding site of trypanothione reductase from *Crithidia fasciculata*: enzyme kinetic properties of γ -glutamyl-modified substrate analogs

AUTHOR(S): El-Waer, Abdussalam F.; Smith, Keith; McKie, James H.; Benson, Timothy; Fairlamb, Alan H.; Douglas, Kenneth T.

CORPORATE SOURCE: Department of Pharmacy, University of Manchester, Manchester, UK

SOURCE: Biochimica et Biophysica Acta, Protein Structure and Molecular Enzymology (1993), 1203(1), 93-8
CODEN: BBAEDZ; ISSN: 0167-4838

PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Trypanothione reductase, central to the redox defense systems of parasitic trypanosomes and leishmanias, is sufficiently different in its substrate-specificity from mammalian glutathione reductase to represent an attractive target for chemotherapeutic intervention. Previous studies of the physiol. substrates trypanothione (N1,N8-bis(glutathionyl)spermidine) and N1-glutathionylspermidine disulfide established that the spermidine moiety of these substrates can be replaced by the 3-dimethyl-propylamide group (N1-glutathionyl-N3-dimethyl-propylamide). With this modification, the specificity for the γ -glutamyl moiety of the substrate was examined. Kinetic anal. of a series of substrate analogs indicated that neither the α -carboxylate or α -amino functions of the L- γ -glutamyl group is essential for recognition, since this group could be replaced by uncharged benzyloxycarbonyl or t-butyloxycarbonyl groups with relative catalytic efficiencies (k_{cat}/K_m) of 58 and 11%, resp., of N1-glutathionyl-N3-dimethylpropylaminedisulfide. Other substitutions are less well tolerated (e.g., β -L-aspartyl or aminobutyryl) or not at all (e.g., glutaryl). These findings are discussed in relation to the structural model of TR from Trypanosoma congolense. The successful structural replacements achieved have potential application for drug delivery.

IT 148333-10-2

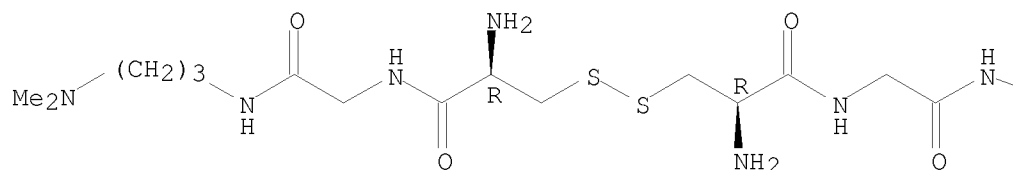
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with trypanothione reductase of Crithidia fasciculata, kinetics of, structure in relation to)

RN 148333-10-2 CAPLUS

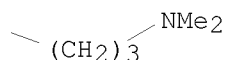
CN Glycinamide, L-cysteinyl-N-[3-(dimethylamino)propyl]-, bimol.
(1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



L5 ANSWER 74 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1994:54914 CAPLUS

DOCUMENT NUMBER: 120:54914

ORIGINAL REFERENCE NO.: 120:10047a,10050a

TITLE: Synthesis of thiazolidine-2-thione derivatives and evaluation of their hepatoprotective effects

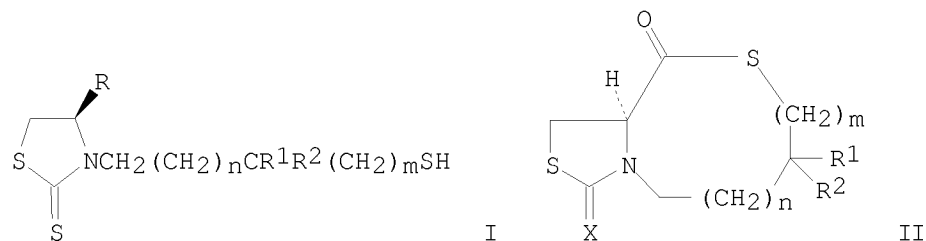
AUTHOR(S): Yoneda, Koji; Ota, Atsutoshi; Kawashima, Yoichi

CORPORATE SOURCE: Cent. Res. Lab., Santen Pharm. Co., Ltd., Osaka, 533, Japan

SOURCE: Chemical & Pharmaceutical Bulletin (1993), 41(5),

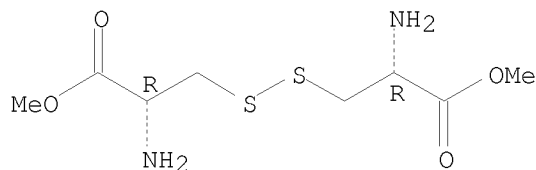
876-81
CODEN: CPBTAL; ISSN: 0009-2363

DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 120:54914
GI



- AB A series of N-(mercaptoalkyl)thiazolidine-2-thiones I (R = CO₂Me, CH₂OH, R₁ = H, Me, R₂ = H, Me, n = 0, 1, m = 0, 1) and their cyclized derivs. II (X = O, S) were evaluated for hepatoprotective activities against *Propionibacterium acnes*-lipopolysaccharide (P. *acnes*-LPS)-induced liver injury in mice and in vitro lipid peroxide (LPO) formation in rat liver microsomes. Reaction of cysteine derivs. 4-MeOC₆H₄CH₂S(CH₂)_mCR₁R₂(CH₂)_nCH₂-Cys-OMe with 1,1'-thiocarbonyldiimidazole followed by deprotection gave the corresponding thiazolidine-2-thione derivs I. Among the compds. synthesized, I (R = CO₂Me, R₁ = R₂ = Me, n = m = 0) (III) and II (X = S, R₁ = R₂ = Me, n = m = 0) (IV) showed the most potent hepatoprotective activities against P. *acnes*-LPS-induced liver injury. I inhibited LPO formation in vitro. Compds. III and IV were chosen for further pharmacol. evaluations.
- IT 32854-09-4, Cystine dimethyl ester dihydrochloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(sequential reductive alkylation of, with (methoxybenzylthio)aldehydes, and reduction of, alkylcysteine derivative from)
- RN 32854-09-4 CAPLUS
- CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.

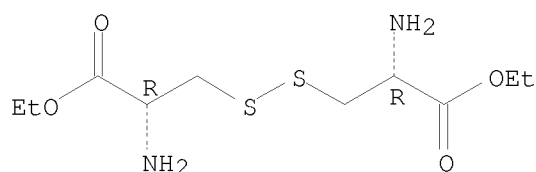


● 2 HCl

L5 ANSWER 75 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1994:48359 CAPLUS
DOCUMENT NUMBER: 120:48359
ORIGINAL REFERENCE NO.: 120:8739a,8742a
TITLE: Formation of disulfide bonds in the reaction of SH group-containing amino acids with trimethylamine N-oxide. A regulatory mechanism in proteins

AUTHOR(S): Brzezinski, Bogumil; Zundel, Georg
 CORPORATE SOURCE: Faculty of Chemistry, A. Mickiewicz University,
 Grunwaldzka 6, Poznan, PL-60780, Pol.
 SOURCE: FEBS Letters (1993), 333(3), 331-3
 CODEN: FEBLAL; ISSN: 0014-5793
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Two amino acids containing SH group (cysteine and homocysteine) +
 trimethylamine N-oxide systems were studied by FTIR and ¹H NMR
 spectroscopy. This study demonstrates that cysteine and homocysteine
 ethylesters react with trimethylamine N-oxide. Immediately after mixing,
 SH...ON.rdb|har.S...H+ ON
 hydrogen bonds with large proton polarizability are formed. Then a
 reaction proceeds resulting in the formation of corresponding disulfides.
 Trimethylamine N-oxide is present in biol. systems. Thus, the authors'
 results suggest that trimethylamine N-oxide may play a regulatory role in
 S-S bond formation in enzymes and other proteins.
 IT 583-89-1P
 RL: BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL
 (Biological study); FORM (Formation, nonpreparative); PREP (Preparation)
 (formation of, in homocysteine ethylester reaction with trimethylamine
 oxide)
 RN 583-89-1 CAPLUS
 CN L-Cystine, 1,1'-diethyl ester (CA INDEX NAME)

Absolute stereochemistry.



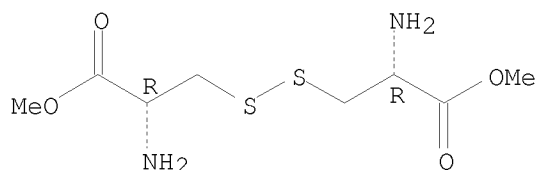
L5 ANSWER 76 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1993:671665 CAPLUS
 DOCUMENT NUMBER: 119:271665
 ORIGINAL REFERENCE NO.: 119:48645a, 48648a
 TITLE: Kinetics of hydrolysis of amino acid esters in
 presence of aqua complexes involving ethylenediamine,
 diethylenetriamine and triethylenetetramine ligands.
 Part 1 - copper(II) and nickel(II)
 AUTHOR(S): Chakraborty, H.; Rahman, M. L.
 CORPORATE SOURCE: Dep. Chem., Rajshahi Univ., Rajshahi, 6205, Bangladesh
 SOURCE: Transition Metal Chemistry (Dordrecht, Netherlands)
 (1993), 18(6), 545-7
 CODEN: TMCHDN; ISSN: 0340-4285
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Aquocomplexes of copper(II) and nickel(II) involving (H₂NCH₂)₂,
 N₂NCH₂CH₂NHCH₂CH₂NH₂ and N₂NCH₂CH₂NHCH₂CH₂NHCH₂CH₂NH₂ as ligands were
 prepared and characterized. Using a pH-stat method, the kinetics of the
 base hydrolysis of amino acid esters such as H₂NCH₂CO₂CH₃·HCl (GE),
 (HO)C₆H₄CH₂(NH₂)CO₂CH₃·HCl (TE), CH₃S(CH₂)₂CH(NH₂)CO₂CH₃·HCl
 (ME), HSCH₂CH(NH₂)CO₂CH₃·HCl (CE),
 N=CHNHCH=C1CH₂CH(NH₂)CO₂CH₃·HCl (HE) and
 [-SCH₂CH(NH₂)CO₂CH₃]₂·2HCl (CysE) was studied. The aquocomplexes
 complexes substantially enhance the rate of hydrolysis, the values of the
 second-order rate consts. being some 10-30 times greater than those
 obtained in the presence of simple metal ions.
 IT 32854-09-4

RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrolysis of, kinetics of catalytic)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 77 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1993:597869 CAPLUS

DOCUMENT NUMBER: 119:197869

ORIGINAL REFERENCE NO.: 119:35133a, 35136a

TITLE: Reactivity of 42 disulfides with thiol group of human hemoglobin and human serum albumin

AUTHOR(S): Mahieu, Jean Pierre; Gosselet, Noelle Martine; Sebillie, Bernard; Garel, Marie Claude; Beuzard, Yves

CORPORATE SOURCE: Lab. Phys. Chim. Biopolym., Thiais, 94320, Fr.

SOURCE: International Journal of Biological Macromolecules (1993), 15(4), 233-40

CODEN: IJBMDR; ISSN: 0141-8130

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The reactivities of disulfides of different compound families towards thiol groups of human Hb and human serum albumin were determined at physiol. pH 7.4 by anion-exchange liquid chromatog. The apparent second-order kinetic rate consts., K1, were calculated for the reaction of these disulfides with each protein. The results show that the studied heterocyclic disulfides are the most reactive compds. with both proteins. The lipophilic properties of these disulfides were evaluated by reversed-phase high performance liquid chromatog., using the percentage of acetonitrile (PAC) required for eluting each compound of the chromatog. column in a water-acetonitrile gradient. The structure-reactivity correlations between log K1 and log PAC are stated for each protein and compared. They fit a parabolic curve which permits one to define a lipophilic domain corresponding to a quant. reaction of disulfides towards these proteins. The studied disulfides present a similar optimum of reactivity for both proteins.

IT 1069-29-0

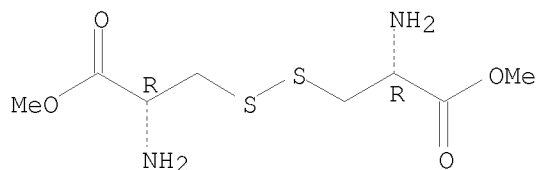
RL: BIOL (Biological study)

(thiol-disulfide exchange reaction of, with human Hb and human serum albumin, kinetics of and structure relation to)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 78 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1993:557845 CAPLUS
DOCUMENT NUMBER: 119:157845
ORIGINAL REFERENCE NO.: 119:28245a,28248a
TITLE: Induction of primary, antiviral cytotoxic, and
proliferative responses with antigens administered via
dendritic cells
AUTHOR(S): Nair, Smita; Babu, John Sam; Dunham, Raymond G.;
Kanda, Patrick; Burke, Rae Lyn; Rouse, Barry T.
CORPORATE SOURCE: Coll. Vet. Med., Univ. Tennessee, Knoxville, TN,
37996, USA
SOURCE: Journal of Virology (1993), 67(7), 4062-9
CODEN: JOVIAM; ISSN: 0022-538X
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Cytotoxic T lymphocytes (CTL) play an essential role in recovery from
viral infections, but induction of CTL responses with nonreplicating
antigens is difficult to achieve. Exogenous antigens, such as viral
proteins and peptides, normally induce CD4+ T-cell responses unless
appropriately delivered to the major histocompatibility complex class I
antigen presentation pathway. In vitro studies performed to address this
issue revealed a similar scenario, and primary CTL induction with
nonreplicating antigens has rarely been reported. This study demonstrated
primary antiviral CTL induction in vitro with exogenous antigens delivered
in vivo to dendritic cells. This study also evaluated the efficacy of
glycoprotein B peptide (free or encapsulated in liposomes),
peptide-tripalmitoyl-S-glyceryl cysteinyl conjugate (acylpeptide), and
glycoprotein B protein encapsulated in pH-sensitive liposomes as antigen
delivery vehicles. The results show that higher levels of cytotoxicity
against herpes simplex virus type 1 resulted from exposure of dendritic
cells to peptide-tripalmitoyl-S-glyceryl cysteinyl in liposomes.
Macrophages treated in a similar manner were not effective stimulators for
primary CTL induction. The data have relevance to the understanding of
mechanisms of antigen processing and presentation and the design of
antiviral vaccines.

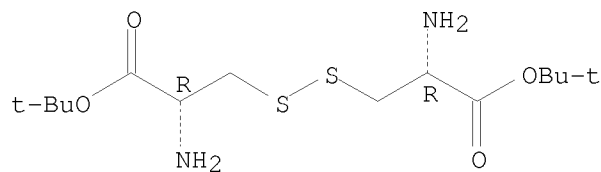
IT 62574-13-4

RL: RCT (Reactant); RACT (Reactant or reagent)
(acylation of, with palmitic anhydride)

RN 62574-13-4 CAPLUS

CN L-Cystine, 1,1'-bis(1,1-dimethylethyl) ester (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



L5 ANSWER 79 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1993:533061 CAPLUS
DOCUMENT NUMBER: 119:133061
ORIGINAL REFERENCE NO.: 119:23728h,23729a
TITLE: Redox status and protein binding of plasma
aminoalcohols during the transient
hyperhomocysteinemia that follows homocysteine
administration
AUTHOR(S): Mansoor, M. Azam; Guttormsen, Anne Berit;
Fiskerstrand, Torunn; Refsum, Helga; Ueland, Per M.;

CORPORATE SOURCE: Svardal, Asbjørn M.
Dep. Pharmacol. Toxicol., Univ. Bergen, Haukeland,
N-5021, Norway
SOURCE: Clinical Chemistry (Washington, DC, United States)
(1993), 39(6), 980-5
CODEN: CLCHAU; ISSN: 0009-9147
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The authors administered reduced L-homocysteine perorally (67 $\mu\text{mol/kg}$ of body wt) to 12 healthy subjects and injected the same dose into one person, and determined the kinetics of the alterations in reduced, oxidized, and protein-bound concns. of homocysteine, cysteine, and cysteinylglycine. After oral intake, reduced homocysteine increased rapidly ($t_{\text{max}} \leq 15$ min), reaching concns. [3.97 (SD 2.99) $\mu\text{mol/L}$] 20-fold above fasting values, and then declined towards the normal concentration within 2 h. There

was

a similar increase in reduced cysteine and a moderate increase in reduced cysteinylglycine. During this response, the authors observed a pos. correlation between the reduced/total ratio for homocysteine and cysteine. When homocysteine was injected, the increase in reduced homocysteine preceded the increase in reduced cysteine by about 3 min. After oral loading, oxidized cysteine by about 3 min. After oral loading, oxidized homocysteine showed a transient increase ($t_{\text{max}} = 30$ min) that lagged behind the increase of reduced homocysteine. Oxidized cysteine and cysteinylglycine were stable or decreased slightly. Protein-bound homocysteine increased the least rapidly after homocysteine administration ($t_{\text{max}} = 1-2$ h), and returned to normal values slowly. Changes in protein-bound homocysteine essentially mirrored a concurrent decrease in protein-bound cysteine, suggesting displacement of bound cysteine. These data show that plasma homocysteine has a pronounced, direct effect on the redox status and protein binding of other plasma thiol components. Such effects should be recognized when studying the mechanisms behind the atherogenic effect of increases plasma homocysteine.

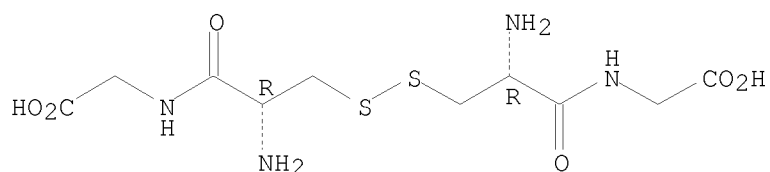
IT 7729-20-6

RL: BIOL (Biological study)
(of human blood plasma, after homocysteine administration)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 80 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1993:492143 CAPLUS

DOCUMENT NUMBER: 119:92143

ORIGINAL REFERENCE NO.: 119:16537a,16540a

TITLE: Effect of a cysteine on the biological activities of a laminin peptide-PA22-2

AUTHOR(S): Tashiro, K.; Takeichi, M.

CORPORATE SOURCE: Dep. Psychiatry, Saga Med. Sch., Saga, 849, Japan

SOURCE: Neurosciences (Okayama, Japan) (1992), 18(Suppl.), P119-P122

CODEN: NUOCDO; ISSN: 0388-7448

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

AB PA22-2, a synthetic peptide located near the G domain of Laminin A chain, has been shown to mediate cell attachment, neurite outgrowth, heparin-binding, and cell growth. Its significant sequence was IKVAV. All peptides which were assayed contained a cysteine in the N-terminal region, so the dimer was easily conformed in solution. The differences in biol. activities between the monomer and dimer are unknown. In this study, the monomer and dimer were purified from the peptides and investigated the activities of cell attachment, neurite outgrowth, and heparin-binding. Furthermore, the effect of a cysteine in the peptide on biol. activities was studied. These results indicate the following: (1) The monomer of P-1 peptide containing a cysteine mediated almost the same biol. activities as the dimer; (2) P-2 and P-3 peptide with an acetoamidomethylated cysteine mediated cell attachment, and heparin-binding, but the activity of neurite outgrowth was low; (3) P-4 peptide without a cysteine mediated only heparin-binding, but other activities were low. However, P-5 peptide with acetylated N-terminal region mediated cell attachment and neurite outgrowth in spite of no cysteine; and (4) Ninhydrin assay indicated that the coating ratios in 20 $\mu\text{g}/\text{well}$ were about 50%, 20%, and <5% for P-5, P-1, and P-2/P-3/P-4/P-6, resp.

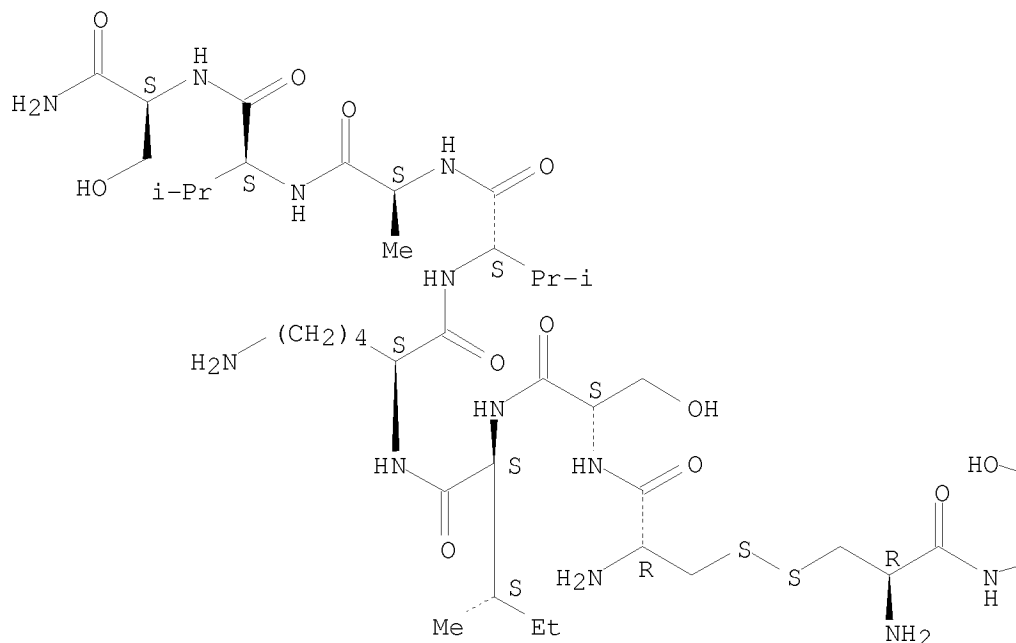
IT 149205-42-5 149226-72-2
 RL: BIOL (Biological study)
 (of laminin A, biol. activities of, cysteine in relation to)

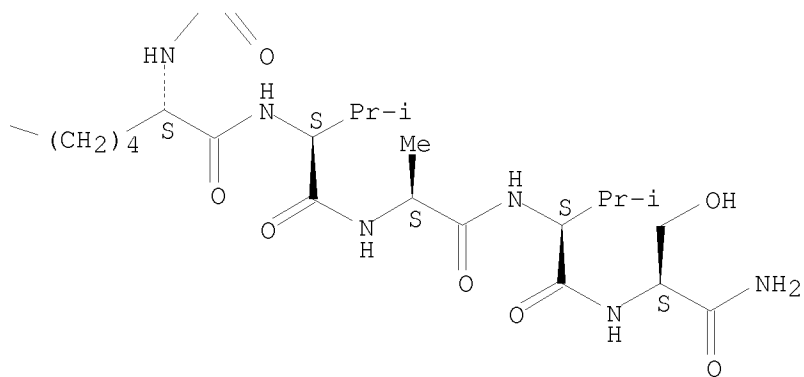
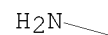
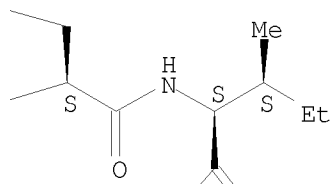
RN 149205-42-5 CAPLUS

CN L-Serinamide, L-cysteinyl-L-seryl-L-isoleucyl-L-lysyl-L-valyl-L-alanyl-L-valyl-, bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

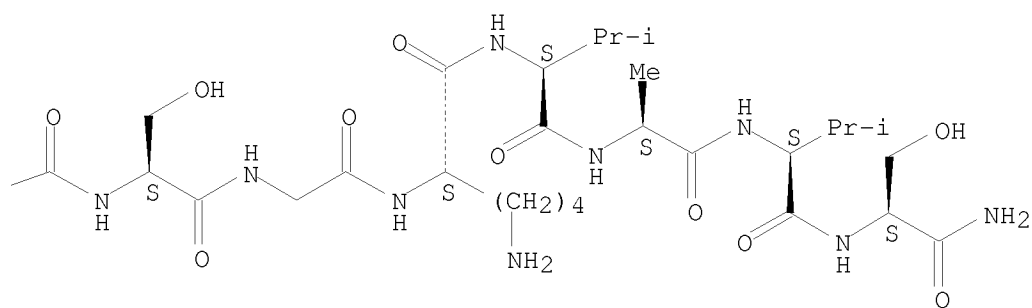
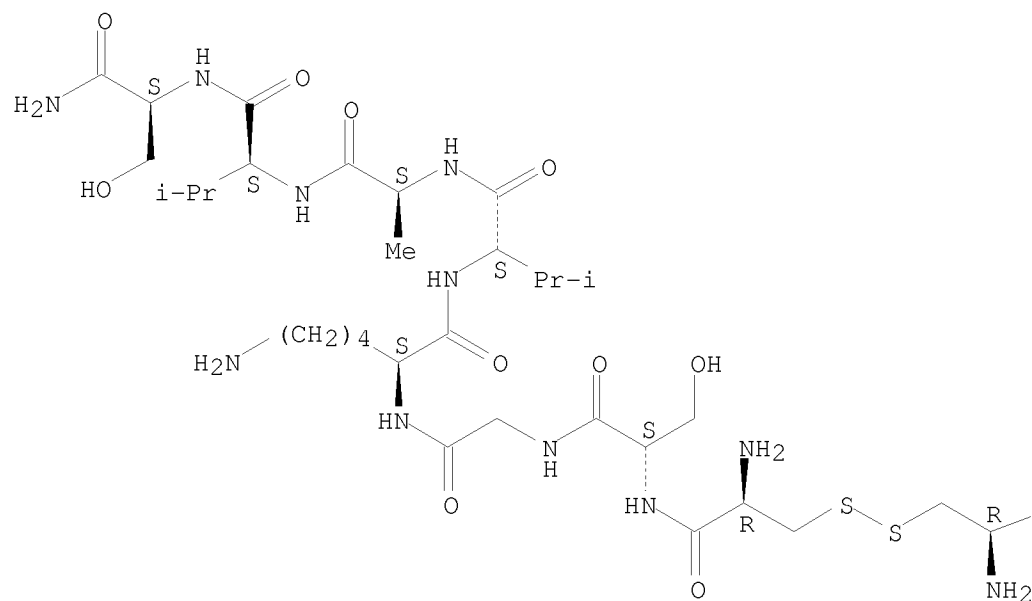
PAGE 1-A





RN 149226-72-2 CAPLUS
 CN L-Serinamide, L-cysteinyl-L-serylglycyl-L-lysyl-L-valyl-L-alanyl-L-valyl-,
 bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 81 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1993:485427 CAPLUS

DOCUMENT NUMBER: 119:85427

ORIGINAL REFERENCE NO.: 119:15089a,15092a

TITLE: Structure-activity relationships of cysteine esters and their effects on thiol levels in rat lung in vitro

AUTHOR(S): Hobbs, M. J.; Butterworth, M.; Cohen, G. M.; Upshall, D. G.

CORPORATE SOURCE: Chem. Biol. Def. Establ., Salisbury/Wiltshire, SP4

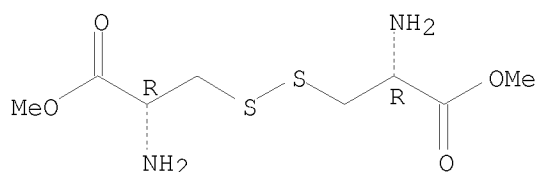
0JQ, UK
SOURCE: Biochemical Pharmacology (1993), 45(8), 1605-12
CODEN: BCPA6; ISSN: 0006-2952
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Pretreatment with cysteine esters increases cysteine (CySH) levels in rat lung and protects against the lethal effects of inhaled perfluoroisobutene in vivo. There are marked differences in the duration of protection achieved with different cysteine esters. In this study the authors have compared the uptake and metabolism of CySH, N-acetyl cysteine (NAC), cysteine esters and cystine esters in vitro using rat lung and liver homogenates and lung slices. Liver homogenates metabolized CySH and cysteine esters faster than lung homogenates. The half life ($T_{1/2}$) of CySH in lung was 58.8 ± 17.3 min and in liver was 14.0 ± 1.6 min (mean \pm SEM). $T_{1/2}$ of the esters in lung ranged between 6.5 and 12.1 min and in liver between 1.9 and 5.3 min. Cysteine tert-Bu ester, which does not protect in vivo, was not hydrolyzed to CySH by lung or liver homogenates. All esters increased and prolonged intracellular CySH concns. in lung slices to a much greater extent than CySH itself. NAC did not raise intracellular CySH above that of the controls and no NAC appeared within the slice. After CySH incubation intracellular CySH was 0.9 ± 0.1 nmol/mg wet weight at 10 min whereas after incubation with the esters it ranged between 2.60 and 3.65 nmol/mg wet weight. Cysteine cyclohexyl ester prolonged the increase of CySH the longest and cysteine Me ester the shortest. CySH levels with cysteine cyclohexyl ester were 2.74 ± 0.15 and 4.13 ± 0.37 nmol/mg wet weight at 10 and 60 min, resp., whereas with cysteine Me ester, CySH levels were 2.60 ± 0.5 and 1.25 ± 0.08 nmol/mg wet weight at similar times. Cystine esters increased intracellular concns. of both cystine and CySH. CySH concns. ranged between 2.92 and 3.19 nmol/mg wet weight and cystine between 1.39 and 1.47 nmol/mg wet weight at 60 min. The elevation and duration of CySH in lung slices is well correlated with the duration of protection against perfluoroisobutene achieved in vivo.

IT 1069-29-0, Cystine dimethyl ester
RL: BIOL (Biological study)
(thiols of liver and lung increase by, structure in relation to)

RN 1069-29-0 CAPLUS
CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 82 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1993:423375 CAPLUS
DOCUMENT NUMBER: 119:23375
ORIGINAL REFERENCE NO.: 119:4245a,4248a
TITLE: Synthesis of substrate analogs for trypanothione reductase
AUTHOR(S): El-Waer, Abdussalam F.; Benson, Timothy; Douglas, Kenneth T.
CORPORATE SOURCE: Dep. Pharm., Univ. Manchester, Manchester, UK
SOURCE: International Journal of Peptide & Protein Research (1993), 41(2), 141-6
CODEN: IJPPC3; ISSN: 0367-8377
DOCUMENT TYPE: Journal

LANGUAGE: English

AB The synthesis and chemical characterization of a range of substrate analogs for trypanothione reductase are described, with the spermidine portion of trypanothione replaced by the 3-dimethylaminopropylamide moiety. Using 1-hydroxybenzotriazole/N-hydroxysuccinimide coupling, products were obtained which had a range of replacements of the γ -glutamyl groups of the enzyme substrate. The materials were characterized by fast-protein liquid chromatog., $^1\text{H}/^{13}\text{C}$ NMR spectroscopy, and fast atom bombardment mass spectroscopy.

IT 148333-11-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as trypanothione reductase substrate)

RN 148333-11-3 CAPLUS

CN Glycinamide, L-cysteinyl-N-[3-(dimethylamino)propyl]-, bimol.
(1 \rightarrow 1')-disulfide, tetraacetate (9CI) (CA INDEX NAME)

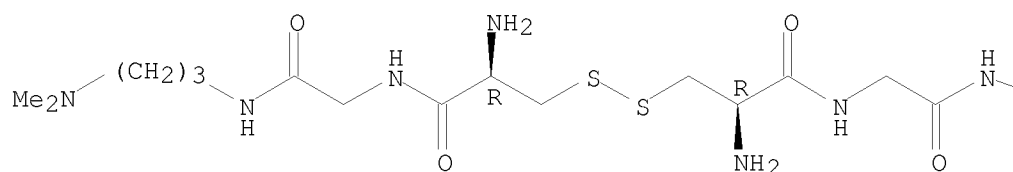
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CRN 148333-10-2

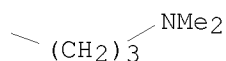
CMF C20 H42 N8 O4 S2

Absolute stereochemistry.

PAGE 1-A



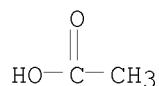
PAGE 1-B



CM 2

CRN 64-19-7

CMF C2 H4 O2



L5 ANSWER 83 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1993:422578 CAPLUS

DOCUMENT NUMBER: 119:22578

ORIGINAL REFERENCE NO.: 119:4081a,4084a

TITLE: Effect of P-450 inducers on biliary excretion of glutathione and its hydrolysis products. Correlation between hepatic γ -glutamyltranspeptidase activity and the proportion of glutathione hydrolysis

products in bile

AUTHOR(S): Madhu, Cherukury; Mitchell, David Y.; Klaassen, Curtis D.

CORPORATE SOURCE: Med. Cent., Univ. Kansas, Kansas City, KS, 66160-7417, USA

SOURCE: Drug Metabolism and Disposition (1993), 21(2), 342-9
CODEN: DMDSAI; ISSN: 0090-9556

DOCUMENT TYPE: Journal

LANGUAGE: English

AB This study was designed to determine if a relationship exists between hepatic γ -glutamyltranspeptidase (γ -GT) activity and the biliary excretion of GSH and its hydrolysis products. Rats were pretreated with the following microsomal enzyme inducers: pregnenolone-16 α -carbonitrile (PCN), dexamethasone (DEX), 3-methylcholanthrene, TCDD, phenobarbital (PB), ETOH, trans-stilbene oxide (TSO), BHA, isosafrole (ISF), clofibrate, and benzo[a]pyrene. Hepatic γ -GT activity was quantitated spectrophotometrically; bile and liver samples were analyzed by HPLC for reduced and oxidized GSH and their hydrolysis products (cysteine, cysteinylglycine, and cysteinylglycine disulfide). Administration of the inducers had only minor effects on hepatic GSH concentration, as BHA was the only agent to increase GSH concentration

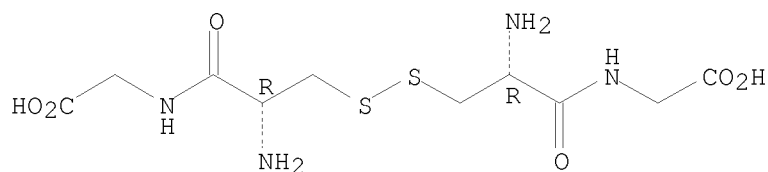
However, these inducers had a pronounced effect on the biliary excretion of total thiol-derived sulfur as PCN, PB, and ISF produced an increase, whereas TCDD, ETOH, and TSO caused a decrease. The relative amount of the GSH hydrolysis products in bile was highly dependent on γ -GT activity. For example, hepatic γ -GT activity was increased by PCN, DEX, BHA, TSO, and ISF. They also increased the GSH hydrolysis products to total thiol-derived sulfur ratio in bile. In conclusion, the ratio of GSH hydrolysis products to total thiol-derived sulfur excreted in rat bile reflects the hepatic γ -GT activity.

IT 7729-20-6
RL: BIOL (Biological study)
(of bile, cytochrome P 450 inducers effect on)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 84 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1993:409162 CAPLUS

DOCUMENT NUMBER: 119:9162

ORIGINAL REFERENCE NO.: 119:1889a,1892a

TITLE: N-(5-thio-L-prolyl)-L-cysteine, derivatives thereof, processes for the preparation thereof and pharmaceutical compositions containing them

INVENTOR(S): Poli, Stefano; Coppi, Germano; Signorelli, Giovanni

PATENT ASSIGNEE(S): Poli Industria Chimica S.p.A., Italy

SOURCE: Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW

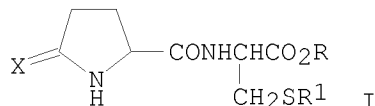
DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 515995	A2	19921202	EP 1992-108659	19920522
EP 515995	A3	19930721		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, MC, NL, PT, SE				
US 5254579	A	19931019	US 1992-879907	19920508
JP 05194588	A	19930803	JP 1992-160044	19920528
PRIORITY APPLN. INFO.:			IT 1991-MI1470	A 19910529
OTHER SOURCE(S):	MARPAT 119:9162			
GI				



AB Title compds. I (X = O, S; R = H, alkyl, aryl, aralkyl, dialkylaminoalkyl; R1 = H, alkyl, alkoxy carbonylalkyl, aroyl, arylalkanoyl, heterocyclylcarbonyl) and their disulfides were prepared. Thus, L-cystine di-Me ester was treated with 5-oxo-L-proline, followed by reduction and treatment with Lawesson's reagent to give I (X = S, R = Me, R1 = H) which was hydrolyzed to the acid. At 100 mg/kg orally in mice I (X = S, R = R1 = H) increased bronchial mucus secretion by 112.8% over controls. At the same dose I (X = S, R = Me, R1 = H) decreased mortality from paracetamol toxicity to 45.5% of controls.

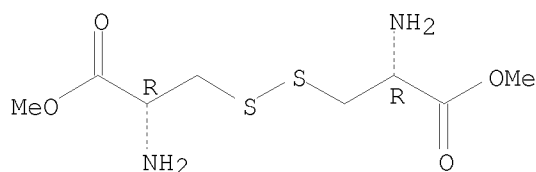
IT 1069-29-0

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with oxoproline)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 85 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1993:207067 CAPLUS

DOCUMENT NUMBER: 118:207067

ORIGINAL REFERENCE NO.: 118:35489a, 35492a

TITLE: Protection by cysteine esters against chemically induced pulmonary edema

AUTHOR(S): Lailey, A. F.; Hill, L.; Lawston, I. W.; Stanton, D.; Upshall, D. G.

CORPORATE SOURCE: Biol. Div., Chem. Biol. Def. Establ., Porton Down/Salisbury/Wiltshire, SP4 0JQ, UK

SOURCE: Biochemical Pharmacology (1991), 42(Suppl.), S47-S54
CODEN: BCPCA6; ISSN: 0006-2952

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Perfluoroisobutene (PFIB) is a hydrophobic reactive gas produced by the pyrolysis of polytetrafluoroethane which induces pulmonary edema similar to that induced by phosgene when inhaled. When a LD is inhaled by Porton

strain rats total non-protein thiol (NPSH) and glutathione (GSH) in the lung are reduced by between 30 and 49%, resp. If the endogenous levels of thiols in the lung are reduced by pretreatment with buthionine sulfoxime (BSO) 16 h before exposure to PFIB, the rats become more susceptible to the effects of the gas. The effect of BSO pretreatment on toxicity was prevented by pretreatment 30 min before exposure, with 5 mmol/kg N-acetylcysteine (NAC). NAC increased the levels of cysteine (CySH) in the lung by 150% and GSH was unaffected. Similarly pretreatment with 3 mmol/kg CySH also protected against toxicity and raised CySH levels by 100%. A series of cysteine esters and cystine di-Me ester (CDME) have been synthesized which selectively raise lung levels of CySH in the rat lungs after i.p. (i.p.) injection. The Me ester and CDME raised lung levels of CySH by 4000 and 2000%, resp., 10 min after i.p. injection while GSH levels remained unchanged. Cysteine iso-Pr ester raised lung levels of CySH by 10,600% but liver levels by only 1400%. All esters except the tert-Bu ester (CTBE) also raised maximal plasma levels of NPSH by up to 500%; however, when NAC was injected plasma levels increased by over 1500%. Rats treated with these esters at 3 mmol/kg and with NAC at 5 mmol/kg were protected against LDs of PFIB in all cases except when CTBE was used. It appears that these cysteine esters may distribute preferentially into the lung, unlike NAC. The selective enhancement of pulmonary CySH levels may provide a method for the protection of lungs against inhaled reactive toxicants by increasing intracellular CySH. Levels of CySH may also be raised in epithelial lining fluid thus reducing access of gaseous toxicants to pulmonary tissue.

IT 1069-29-0

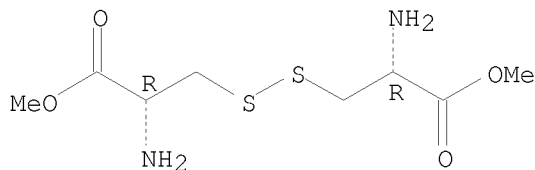
RL: BIOL (Biological study)

(as pulmonary edema protectant in perfluoroisobutene poisoning)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 86 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1993:126981 CAPLUS

DOCUMENT NUMBER: 118:126981

ORIGINAL REFERENCE NO.: 118:21969a,21972a

TITLE: Synthesis and properties of cationic surfactants containing a disulfide bond

AUTHOR(S): Pinazo, A.; Diz, M.; Solans, C.; Pes, M. A.; Erra, P.; Infante, M. R.

CORPORATE SOURCE: Inst. Technol. Quim. Text., Barcelona, Spain

SOURCE: Journal of the American Oil Chemists' Society (1993), 70(1), 37-42

CODEN: JAOCA7; ISSN: 0003-021X

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Two new cationic surfactants containing a disulfide bond were synthesized, and the phys. chemical characteristics and the fundamental surface-active properties were determined. These compds. were prepared by condensation of Na-lauryl-Na,N-dimethylaminobetaine with cystine di-Me ester or cystamine by means of the mixed anhydride method. These mols. were soluble in water (stable at pH ≤8) and showed surface activity with similar low critical micelle concentration values. Microscopic examination of

water/surfactant systems containing these compds. showed that they formed liquid

crystals with patterns corresponding to typical hexagonal and lamellar structures.

IT 1069-29-0, Cystine dimethyl ester

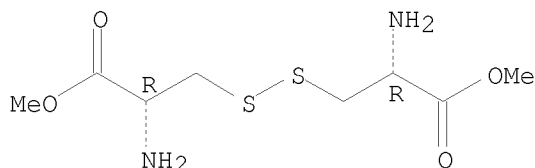
RL: USES (Uses)

(condensation of, with lauryldimethylaminobetaine, by mixed anhydride method)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 87 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1993:101729 CAPLUS

DOCUMENT NUMBER: 118:101729

ORIGINAL REFERENCE NO.: 118:17809a,17812a

TITLE: Synthesis of thiirancarboxylic esters from cysteine and cystine esters

AUTHOR(S): Owen, Terence C.; Leone, Joseph K.

CORPORATE SOURCE: Dep. Chem., Univ. South Florida, Tampa, FL, 33620, USA

SOURCE: Journal of Organic Chemistry (1992), 57(25), 6985-8

CODEN: JOCEAH; ISSN: 0022-3263

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 118:101729

AB The synthesis of thiirancarboxylic esters (thioglycidic esters) by reacting cysteine esters with nitrous acid proceeds best with three moles of nitrosating agent, added rapidly, with exclusion of oxygen. A smaller excess of nitrite, slow addition, or access of air, all drastically reduce the yield. Cystine esters also give thioglycidic esters upon nitrosation. A mechanism proposed to account for the exptl. findings proceeds via the thionitrite to the N, N,S-trinitroso compound which undergoes electrocyclic collapse by intramol. single-electron pairing with extrusion of two mols. of nitric oxide and one of nitrous oxide.

IT 22888-38-6

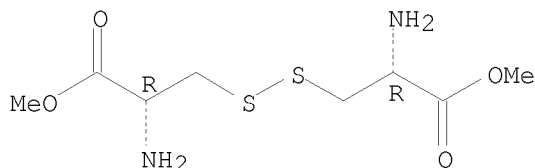
RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with nitrous acid, thiirancarboxylate from)

RN 22888-38-6 CAPLUS

CN L-Cystine, dimethyl ester, hydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.



●x HCl

L5 ANSWER 88 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1993:89367 CAPLUS
DOCUMENT NUMBER: 118:89367
ORIGINAL REFERENCE NO.: 118:15527a,15530a
TITLE: Effects of cysteine derivatization on its behavior in the electrode process giving the polarographic hydrogen prewave
AUTHOR(S): Florea, Mircea; Banica, Florinel Gabriel; Diacu, Elena; Moraru, Mircea
CORPORATE SOURCE: Dep. Anal. Chem. Instrum. Anal., Polytech. Inst. Bucharest, Bucharest, Rom.
SOURCE: Revue Roumaine de Chimie (1992), 37(5), 531-9
CODEN: RRCHAX; ISSN: 0035-3930
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The derivatization of cysteine influences its ability to induce the catalytic hydrogen prewave according to the group masked. Thus, the masking of sulfur (by carboxymethylation) or nitrogen (by benzoylation) results in the loss of the catalytic activity, whereas the esterification produces only minor changes. Compds. which give catalytic prewave of nickel or cobalt (methionine, 6-methylthiouracil, bismuthiol, N-benzoylcysteine) or even catalytic hydrogen waves of the Brdicka type (thioglycolic acid, ovalbumins) are still not able to induce the catalytic hydrogen prewave. The occurrence of this wave is strongly dependent on the possibility of the ligand to chelate the nickel ion by the thiol and amino groups. Consequently, the catalytic hydrogen prewave appears to be much more sensitive to the structure of the ligand catalyst as compared to both the Brdicka wave or the catalytic prewave of the metal-ion.

IT 583-89-1, L-Cystine diethyl ester

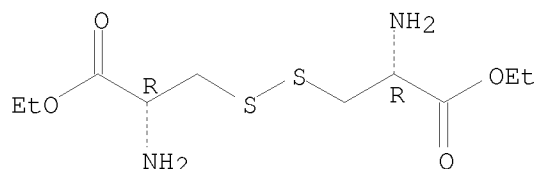
RL: PRP (Properties)

(electrocatalytic hydrogen prewave on mercury in presence of, with cobalt or nickel ions)

RN 583-89-1 CAPLUS

CN L-Cystine, 1,1'-diethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 89 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1993:75056 CAPLUS
DOCUMENT NUMBER: 118:75056
ORIGINAL REFERENCE NO.: 118:13047a,13050a
TITLE: Marked interanimal differences in susceptibility of Sprague-Dawley rats to diquat-induced oxidative stress in the liver: Correlation with hepatic uptake of diquat
AUTHOR(S): Madhu, Cherukury; Gregus, Zoltan; Klaassen, Curtis D.
CORPORATE SOURCE: Environ. Health Occupat. Med. Cent., Univ. Kansas, Kansas City, KS, USA
SOURCE: Journal of Pharmacology and Experimental Therapeutics (1992), 263(3), 1003-8
CODEN: JPETAB; ISSN: 0022-3565
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Biliary excretion of oxidized glutathione (GSSG) is used as an index of oxidative stress. The authors observed a marked interanimal difference in susceptibility to diquat-induced oxidative stress. When diquat injections (120 $\mu\text{mol/kg}$, i.v.) were administered to rats, a 60-fold increase in the biliary excretion of GSSG was observed in 40% of the rats (responders); however, diquat failed to increase the biliary excretion of GSSG in 60% of the animals (nonresponders). This interanimal variation is not due to differences in the hepatic metabolism or hepatobiliary transport of GSSG, as no interanimal difference was observed in the biliary output of GSSG after administration of another oxidative stress-inducing agent, tert-Bu hydroperoxide (1.4 mmol/kg, i.v.). The authors then examined the hepatobiliary disposition of diquat (120 $\mu\text{mol/kg}$, i.v.) using a high-performance liquid chromatog. procedure to quantitate diquat in blood, liver, and bile. No differences in blood or biliary concentration of diquat

were

noted between responders and nonresponders. However, a marked difference was observed in the hepatic concentration of diquat in responders and nonresponders.

The responders exhibited a 4-fold higher hepatic diquat concentration than the nonresponders (65 or 15 nmol/g, resp.) 30 min after diquat administration. In conclusion, this study demonstrates a marked interanimal variation in the susceptibility of Sprague-Dawley rats to oxidative stress produced by diquat, which appears to be due to interanimal difference in the hepatic accumulation of diquat.

IT 7729-20-6

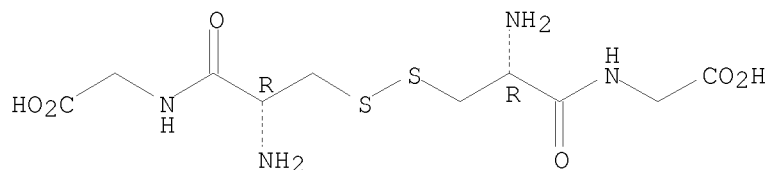
RL: PROC (Process)

(excretion of, in bile, Bu hydroperoxide induction of)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 90 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1993:7372 CAPLUS

DOCUMENT NUMBER: 118:7372

ORIGINAL REFERENCE NO.: 118:1569a,1572a

TITLE: p-Azobenzenecarboxamidomethyl esters - new colored hydrophobic carboxyl protecting groups in peptide synthesis

AUTHOR(S): Zhuravlev, V. G.; Mazurov, A. A.; Andronati, S. A.

CORPORATE SOURCE: A. V. Bogatsky Phys. Chem. Inst., Odessa, 270080, Ukraine

SOURCE: Collection of Czechoslovak Chemical Communications (1992), 57(7), 1495-504

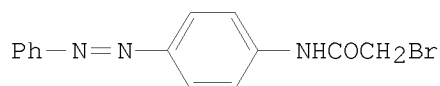
CODEN: CCCCAK; ISSN: 0010-0765

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 118:7372

GI



I

AB p-Azobenzenecarboxamidomethyl esters (OAbc esters) of several α -amino acids have been synthesized and characterized. Thus, H-X-OAbc.p-MeC₆H₄SO₃H (X = Gly, Ala, Met, Phe, Leu, etc.) were prepared by treating the corresponding amino acid with Et acetoacetate and 15-crown-5 and esterifying the resulting complex with azobenzene derivative I. Their application in peptide chemical as a colored alkali labile carboxyl protecting group was demonstrated. The esters are compatible with commonly used protecting groups. They are removed with aqueous potassium carbonate in 15 - 20 min.

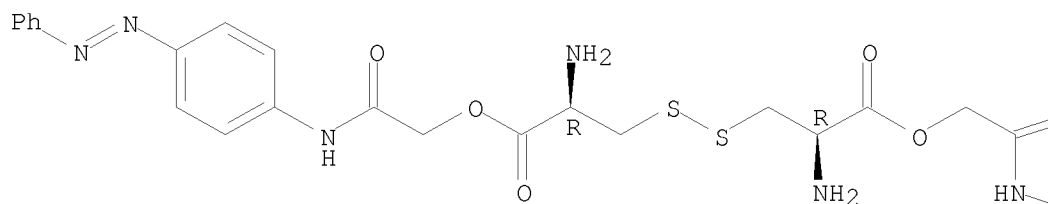
IT 144800-32-8P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

RN 144800-32-8 CAPLUS

CN L-Cystine, bis[2-oxo-2-[[4-(phenylazo)phenyl]amino]ethyl] ester, dihydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.
 Double bond geometry unknown.

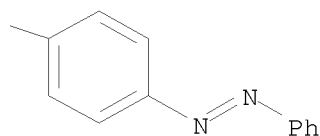
PAGE 1-A



● 2 HCl

PAGE 1-B

=O



L5 ANSWER 91 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1992:651791 CAPLUS

DOCUMENT NUMBER: 117:251791

ORIGINAL REFERENCE NO.: 117:43619a, 43622a

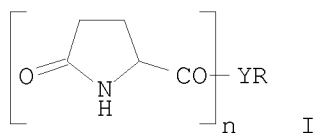
TITLE: Preparation of 5-oxo-1-proline peptides as drugs

INVENTOR(S): Poli, Stefano; Coppi, Germano

PATENT ASSIGNEE(S): Poli Industria Chimica S.p.A., Italy
 SOURCE: Eur. Pat. Appl., 9 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 498268	A2	19920812	EP 1992-101347	19920128
EP 498268	A3	19931208		

R: DE, ES, FR
 PRIORITY APPLN. INFO.: IT 1991-MI303 A 19910206
 OTHER SOURCE(S): MARPAT 117:251791
 GI

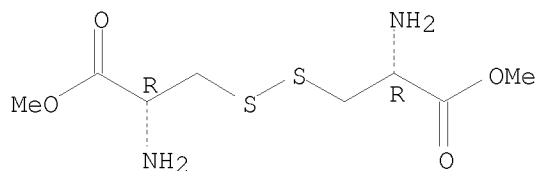


AB Title compds. I (Y = O, S, NH, pyrrolidinyl, thiazolidinyl; R, when Y = O, S, is such that R-YH = C2-5 hydroxy- or thiolalkylamine, C3-11 L-hydroxy or thiolamino acid, which can be aliph, aromatic, a hydroxy- or thiol-oligopeptide containing 2-6 amino acid units, or an ester, amide or N-acyl deriv thereof, etc.; n = 1-3, such that when n = >1, R is a residue having ≥2 YH groups), were prepared L-5-Hydroxytryptophan Me ester and 5-oxoproline in DMF were stirred with DCC to give N-(5-oxo-L-prolyl)-L-5-hydroxytryptophan. I showed immunostimulatory, antiradical, and superoxide stimulating activities comparable to or greater than those of pyroglutamylthiazolidinecarboxylic acid.

IT 32854-09-4, L-Cystine dimethyl ester dihydrochloride
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (condensation of, with (oxopropyl)diazolyldicarboxylic acid)

RN 32854-09-4 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.

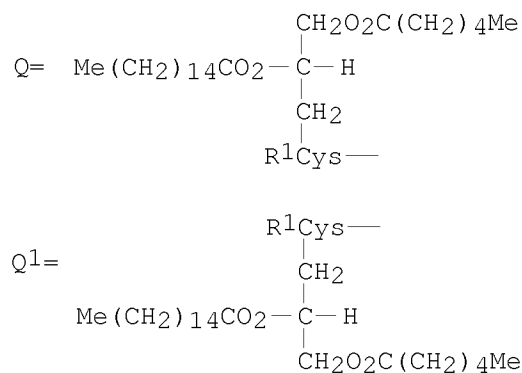


● 2 HCl

L5 ANSWER 92 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1992:634557 CAPLUS
 DOCUMENT NUMBER: 117:234557
 ORIGINAL REFERENCE NO.: 117:40595a, 40598a
 TITLE: Preparation of lipopeptides as antitumor agents
 INVENTOR(S): Achinami, Kazuo; Kurimura, Muneaki

PATENT ASSIGNEE(S): Otsuka Seiyaku K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

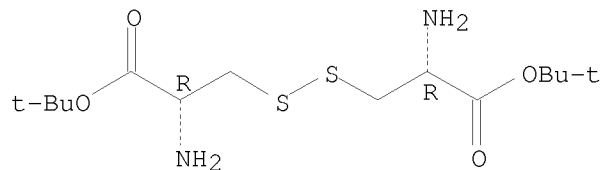
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04099796	A	19920331	JP 1990-214786	19900813
PRIORITY APPLN. INFO.: GI			JP 1990-214786	19900813



AB A1-Ser-Ser-Asn-Ala-OH [I; A1 = Q, Q1; R1 = CO(CH2)14Me, CO2CH2CCl3; when A1 = Q, R1 also = H] and Q-Ser-A2-OH (R1 = CO2CH2CCl3, when A2 = bond or Ser; R1 = H or CO2CH2CCl3, when A2 = Ser-Asn-OH) are prepared. Thus, I (A1 = Q, R1 = CO2CH2CCl3) was prepared by the solution method and in vivo at 50 µg i.v. on day 7 and 9 inhibited 64.7% the growth of tumor Meth A cells inoculated in mice.

IT 62574-13-4P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, as intermediate for antitumor lipopeptides)
 RN 62574-13-4 CAPLUS
 CN L-Cystine, 1,1'-bis(1,1-dimethylethyl) ester (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



L5 ANSWER 93 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1992:612850 CAPLUS
 DOCUMENT NUMBER: 117:212850
 ORIGINAL REFERENCE NO.: 117:36795a,36798a
 TITLE: Defining the dimensions of the catalytic site of phospholipase A2 using amide substrate analogs
 AUTHOR(S): Yu, Lin; Dennis, Edward A.
 CORPORATE SOURCE: Dep. Chem., Univ. California, San Diego, La Jolla, CA, 92093-0601, USA

SOURCE: Journal of the American Chemical Society (1992),
114(23), 8757-63
CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: English

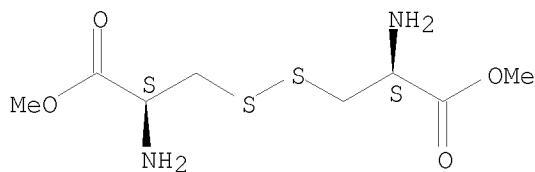
AB Two series of phospholipid analogs, each containing a thioether function at the sn-1 position and an amide function at the sn-2 position, have been synthesized and evaluated as phospholipase A2 inhibitors. The first series of analogs contained a hexyl group (C-6) at the sn-1 position and various acyl groups at the sn-2 position, ranging from formyl to dodecanoyl (1-12 carbons). The second series contained an sn-1 hexadecyl group (C-16) and various sn-2 acyl groups from formyl to eicosanoyl (1-20 carbons). Hydrophobic interactions of the enzyme with the amide analogs were studied using several different substrate forms including monomers, micelles, and mixed micelles with Triton X-100. The C-6 amide analogs were used for the monomeric study, while the C-16 analogs were used in the micellar studies. The inhibition studies with the monomeric amide analogs demonstrate that the sn-2 acyl chain is absolutely required for the binding of the analog to the enzyme and that the catalytic site interacts with about the first 10 carbons of the sn-2 acyl chain. In addition, each methylene group of the sn-2 acyl chain from C5 to C10 provides about 665 cal/mol of binding energy. In contrast, the inhibition potency of the amide analogs in micellar states followed a quite different, more complex chain length dependency. The chain length of the sn-2 acyl group is much less important in the micellar systems than in the monomeric systems, since the hydrophobic interactions between the sn-2 acyl chain and the enzyme are balanced by its interactions with the hydrophobic core of the micelle. The importance of double bonds in the sn-2 chain was also studied, but no correlation between the degree of unsatn. and the degree of inhibition was observed. These studies help delineate the mode of the interactions between enzyme and substrate.

IT 144000-36-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(tritylation of)

RN 144000-36-2 CAPLUS

CN D-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 94 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1992:592302 CAPLUS

DOCUMENT NUMBER: 117:192302

ORIGINAL REFERENCE NO.: 117:33243a,33246a

TITLE: Synthesis and disulfide structure determination of agelenin: identification of the carboxy-terminus as an amide form

AUTHOR(S): Inui, T.; Hagiwara, K.; Nakajima, K.; Kimura, T.; Nakajima, T.; Sakakibara, S.

CORPORATE SOURCE: Pept. Inst., Minosh, 562, Japan

SOURCE: Peptide Research (1992), 5(3), 140-4

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Agelenin, a blocker of the presynaptic calcium channel, is a 35-amino acid peptide having six cysteinyl residues recently isolated from the venom of the spider *Agelena opulenta*. However, it has not been confirmed whether the carboxy-terminus of this peptide is a free acid or amide. To elucidate this, we synthesized both peptides by a solid-phase procedure, and compared their elution profiles with that of the natural product on RP-HPLC. The retention time on HPLC as well as the biol. activity of the synthetic peptide amide was found to be identical with those of natural agelenin, confirming that the carboxy-terminus of agelenin is amidated. The disulfide structure of agelenin was also determined to be linked between 3-19, 10-24 and 18-34, by comparing the tryptic peptide linked by two disulfide bonds with those synthesized by the selective formation of disulfide bonds.

IT 143599-76-2P

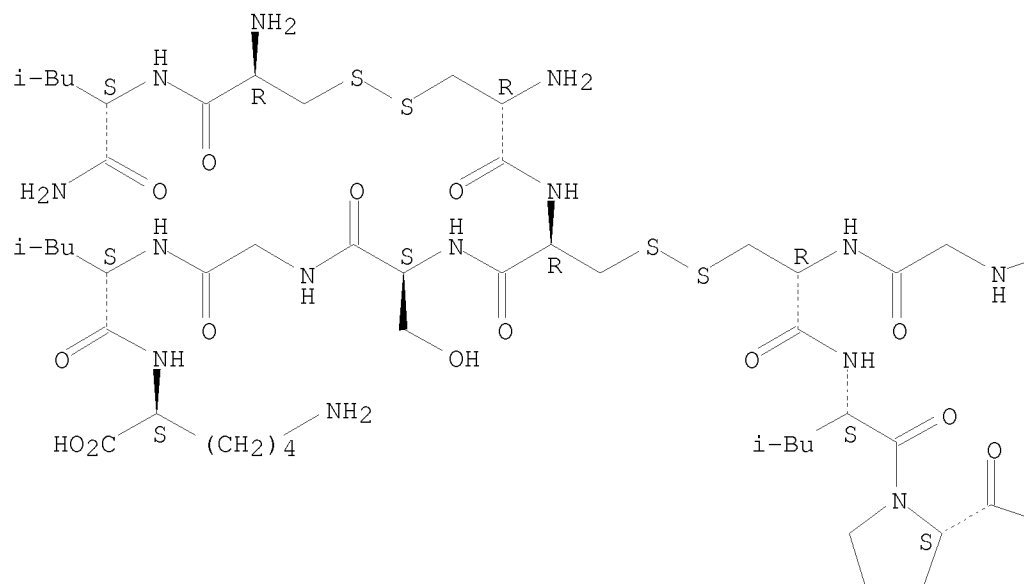
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, for determination of disulfide structure of agelenin)

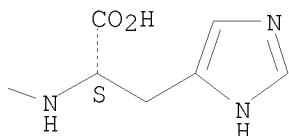
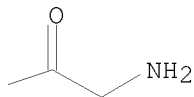
RN 143599-76-2 CAPLUS

CN L-Histidine, glycylglycyl-L-cysteinyl-L-leucyl-L-prolyl-,
(3→2')-disulfide with L-cysteinyl-L-cysteinyl-L-serylglycyl-L-leucyl-L-lysine (1'→1'')-disulfide with L-cysteinyl-L-leucinamide
(9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A





L5 ANSWER 95 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1992:589525 CAPLUS

DOCUMENT NUMBER: 117:189525

ORIGINAL REFERENCE NO.: 117:32689a,32692a

TITLE: Cystine dimethyl ester reduces the forces driving sodium-dependent transport in LLC-PK1 cells

AUTHOR(S): Ben-Nun, A.; Bashan, N.; Potashnik, R.; Cohen-Luria, R.; Moran, A.

CORPORATE SOURCE: Fac. Health Sci., Ben-Gurion Univ. Negev, Beer-Sheva, 84105, Israel

SOURCE: American Journal of Physiology (1992), 263(2, Pt. 1), C516-C520

CODEN: AJPHAP; ISSN: 0002-9513

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Cystinosis is an inherited metabolic disease characterized by accumulation of lysosomal cystine and renal impairment. The effects of cystine loading on the Na⁺-H⁺ antiporter and the sodium pump were studied in renal epithelial cells (LLC-PK1) in culture. Incubation of LLC-PK1 with 1 mM cystine di-Me ester (CDME) for 48 h caused lysosomal cystine loading and reduced the maximal velocity of sodium-hydrogen antiport by 22% with no change in the affinity of sodium for the transporter. Rubidium influx decreased to 46% of control. Ouabain binding expts. revealed a 10% reduction in the number of Na⁺-K⁺-ATPase units in the intact cells. Na⁺-K⁺-ATPase activity in the particulate fraction of the cell homogenates declined to 50% of controls. No change was observed in the activity of ouabain-insensitive phosphatases. The intracellular concentration of sodium increased from 20.6 to 64.8 mM and potassium concentration decreased from 103

to 80 mM. In addition to the observed reduction in the sodium gradient and the reduction

in the intracellular potassium concentration, the membrane potential changed from

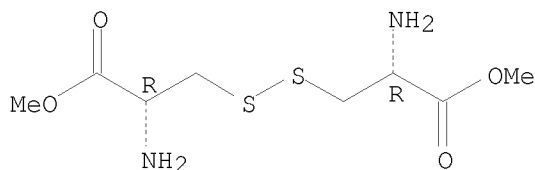
-80.8 to -69.9 mV. The intracellular accumulation of cystine may be associated with reduction in the number and the activity of membrane transporters.

The consequence of the changes in the activity of Na⁺-K⁺-ATPase is a reduction in the electrochem. forces that drive transport in the renal cells. This may be the reason for the development of Fanconi syndrome in cystinosis

patients.

IT 1069-29-0, Cystine dimethyl ester
RL: BIOL (Biological study)
(kidney sodium and potassium transport response to, cystinosis in
relation to)
RN 1069-29-0 CAPLUS
CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

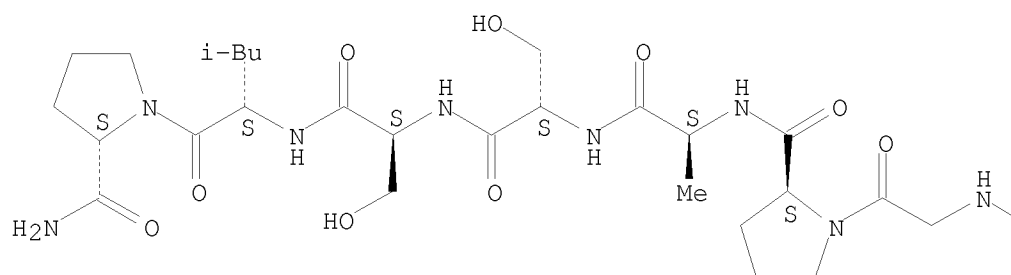
Absolute stereochemistry.



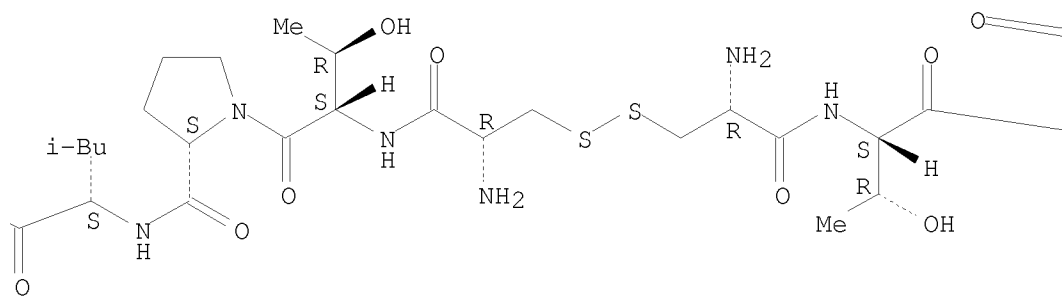
L5 ANSWER 96 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1992:543655 CAPLUS
DOCUMENT NUMBER: 117:143655
ORIGINAL REFERENCE NO.: 117:24701a,24704a
TITLE: Antagonist and agonist activities of synthetic peptide
fragments of g-CSF and their protein conjugates
AUTHOR(S): LoCastro, Stephen M.; Silvestri, Joanne S.; Lee, John
C.; Laydon, Jeffrey T.; Bhatnagar, Pradip K.
CORPORATE SOURCE: Dep. Peptidomimetic Res., SmithKline Beecham Pharm.,
King of Prussia, PA, 19460, USA
SOURCE: Pept.: Chem. Biol., Proc. Am. Pept. Symp., 12th (1992
) , Meeting Date 1991, 454-5. Editor(s): Smith, John A.; Rivier, Jean E.
ESCOM: Leiden, Neth.
CODEN: 57XGA9
DOCUMENT TYPE: Conference
LANGUAGE: English
AB The 1-10 and 95-106 peptide fragments of granulocyte-colony stimulating
factor (g-CSF) were tested for agonist and antagonist activity. The 1-10,
95-106(Ala97), and 95-106(Ala101) fragments had no antagonist activity,
whereas the 95-106(N-N dimer), 95-106(C-C dimer), 1-10 N/95-106C dimer,
and 95-106(loop) had some antagonist activity, the 95-106 fragment had
moderate activity, and the 1-10(N-N dimer) had the greatest antagonist
activity. However, when either the 1-10 or 95-106 fragment was conjugated
with keyhole limpet hemocyanin or ovalbumin they acted as g-CSF agonists.
IT 143407-12-9 143407-16-3
RL: BIOL (Biological study)
(granulocyte-colony stimulating factor antagonist activity of)
RN 143407-12-9 CAPLUS
CN L-Prolinamide, L-cysteinyl-L-threonyl-L-prolyl-L-leucylglycyl-L-prolyl-L-
alanyl-L-seryl-L-seryl-L-leucyl-, bimol. (1→1')-disulfide (9CI)
(CA INDEX NAME)

Absolute stereochemistry.

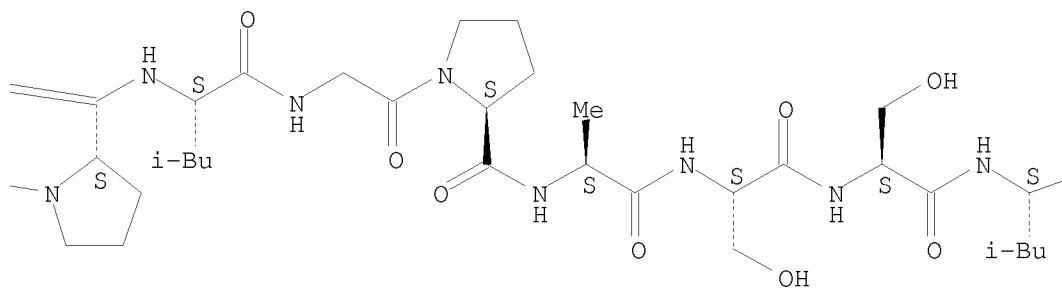
PAGE 1-A



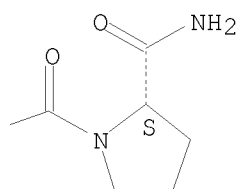
PAGE 1-B



PAGE 1-C



PAGE 1-D

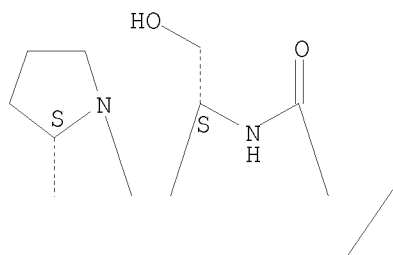


RN 143407-16-3 CAPLUS

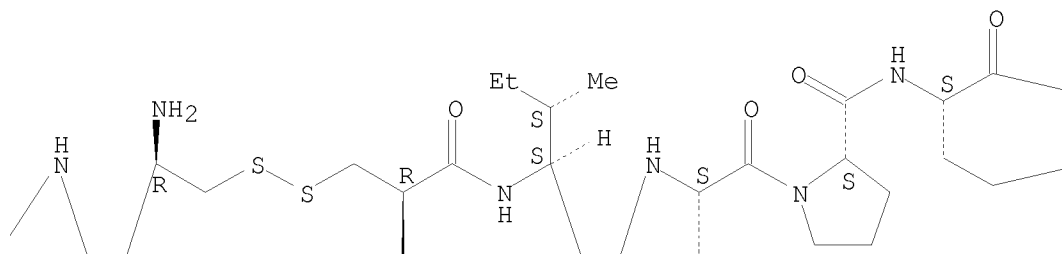
CN L-Leucinamide, L-cysteiny-L-isoleucyl-L-seryl-L-prolyl-L- α -glutamyl-L-leucylglycyl-L-prolyl-L-threonyl-L-leucyl-L- α -aspartyl-L-threonyl-, bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

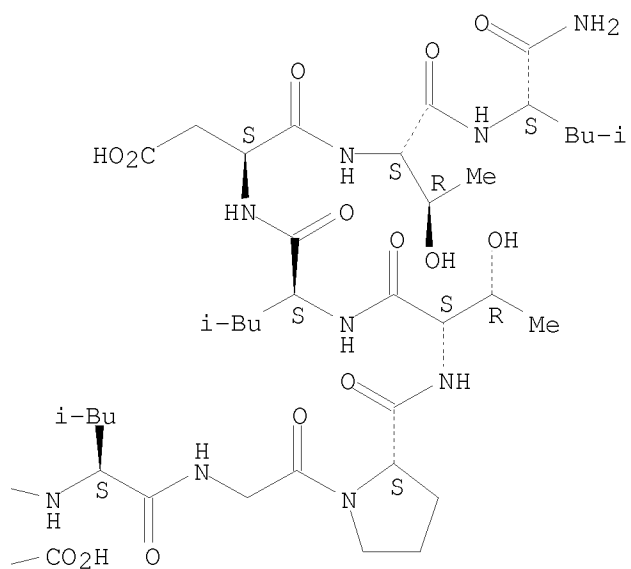
PAGE 1-A



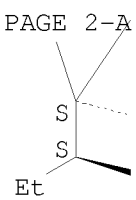
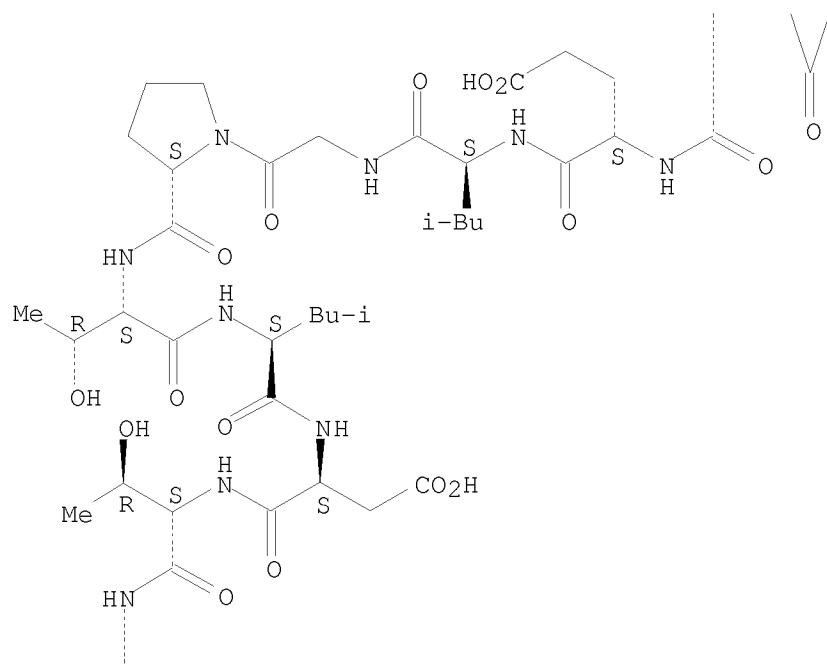
PAGE 1-B



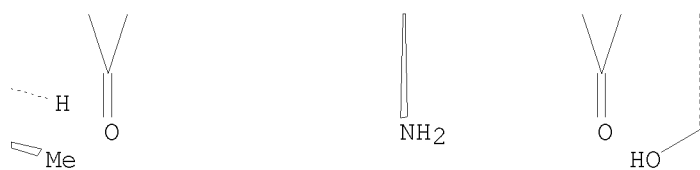
PAGE 1-C

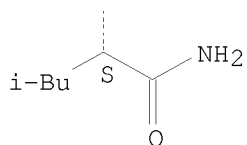


PAGE 2-A



PAGE 2-B





L5 ANSWER 97 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1992:543454 CAPLUS
 DOCUMENT NUMBER: 117:143454
 ORIGINAL REFERENCE NO.: 117:24665a,24668a
 TITLE: Peptides that inhibit platelet binding of adhesion molecules
 INVENTOR(S): Ruggeri, Zaverio M.; Houghten, Richard A.
 PATENT ASSIGNEE(S): Scripps Research Institute, USA
 SOURCE: PCT Int. Appl., 76 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9208476	A1	19920529	WO 1991-US8328	19911107
W: AU, CA, FI, JP, KR, NO, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE				
AU 9191310	A	19920611	AU 1991-91310	19911107
PRIORITY APPLN. INFO.:			US 1990-610363	A1 19901107
			WO 1991-US8328	A 19911107

AB Peptides comprising interchain-linked multimers, each containing the Arg-Gly-Asp sequence and held together by interchain stable bonds (e.g. disulfide or amide), inhibit the binding of fibrinogen or other adhesion mols. to platelets or integrin-expressing cells. These peptides prevent platelet-to-platelet or cell-to-cell aggregation and are useful in preventing, retarding, or detecting thrombus formation. Members of the adhesion mol. group, including fibronectin, vitronectin, thrombospondin, fibrinogen, and von Willebrand factor, all contain the Arg-Gly-Asp sequence which interacts with integrins on the cell surface; the peptides competitively inhibit this interaction. Thus, the disulfide-linked dimer of Arg3-Cys-Arg-Ser-Arg-Gly-Asp-Val inhibited binding of von Willebrand factor to blood platelets with a 50% inhibitory concentration of 0.01 μ M.

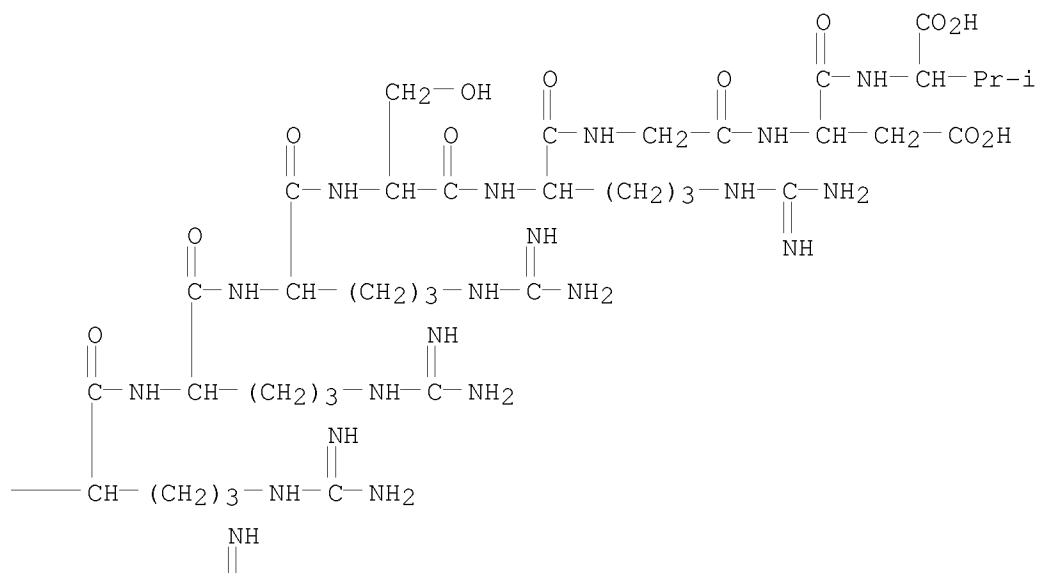
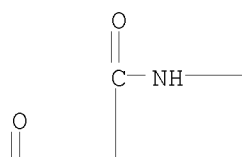
IT 143500-32-7 143500-33-8

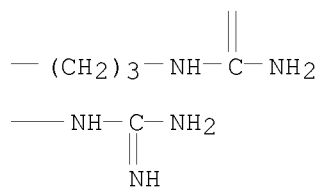
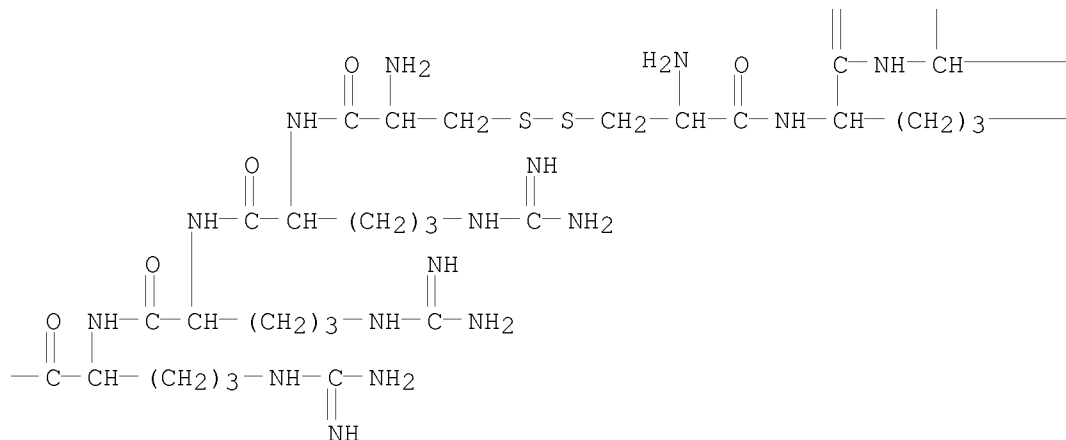
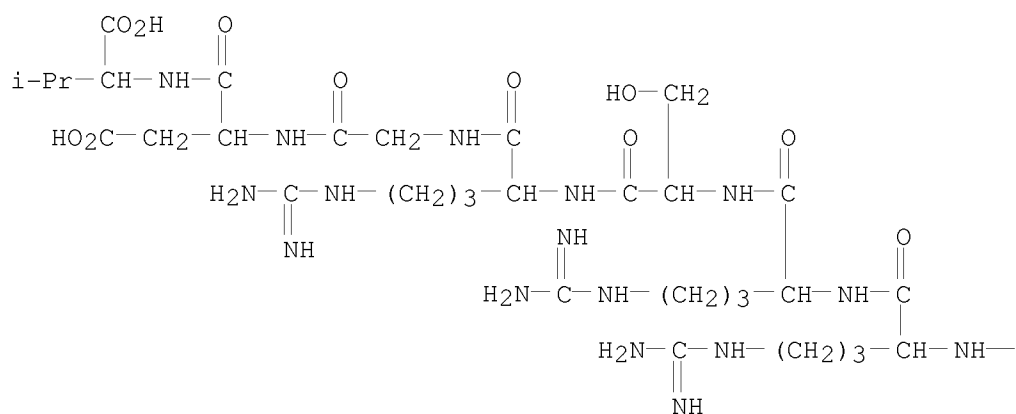
RL: BIOL (Biological study)

(adhesion mol. binding to blood platelets and cells inhibition by)

RN 143500-32-7 CAPLUS

CN L-Valine, L-cysteinyl-L-arginyl-L-arginyl-L-arginyl-L-arginyl-L-arginyl-L-arginyl-L-arginyl-L-arginylglycyl-L- α -aspartyl-, bimol. (1-1')-disulfide
 (9CI) (CA INDEX NAME)

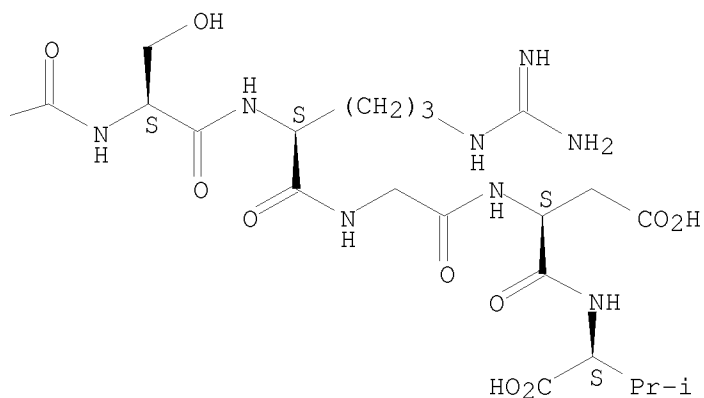
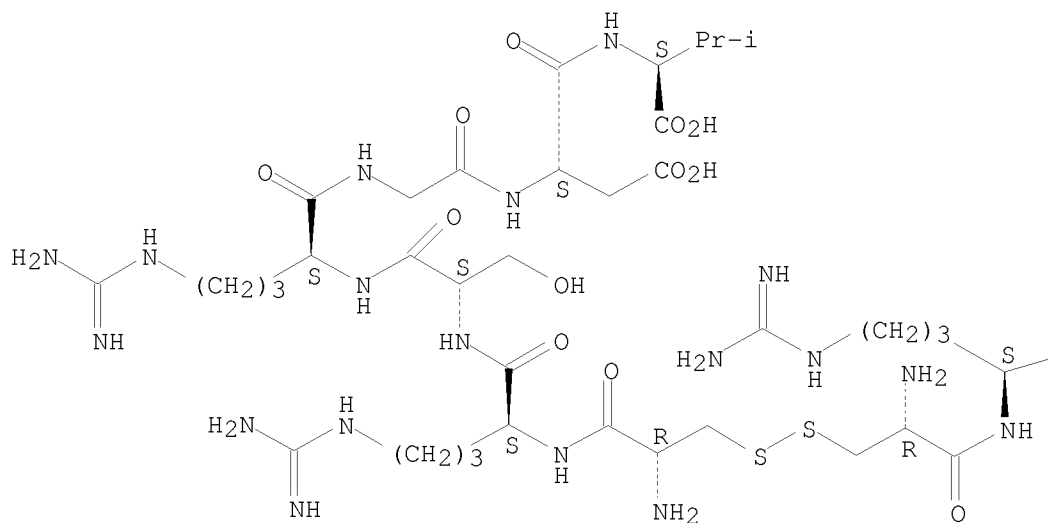




RN 143500-33-8 CAPLUS

CN L-Valine, L-cysteinyl-L-arginyl-L-seryl-L-arginylglycyl-L- α -aspartyl-, bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 98 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1992:490727 CAPLUS

DOCUMENT NUMBER: 117:90727

ORIGINAL REFERENCE NO.: 117:15861a,15864a

TITLE: A synthetic method for unsymmetrical disulfides of cysteine: the bis-cysteine disulfide of meso-2,3-dimercaptosuccinic acid

AUTHOR(S): Polt, Robin; Li, Yushun; Fernando, Quintus; Rivera, Mario

CORPORATE SOURCE: Dep. Chem., Univ. Arizona, Tucson, AZ, 85721, USA
SOURCE: Tetrahedron Letters (1992), 33(21), 2961-4
CODEN: TELEAY; ISSN: 0040-4039

DOCUMENT TYPE: Journal
LANGUAGE: English

AB meso-Dimercaptosuccinic acid, meso-HO₂CCH(SR)CH(SR)CO₂H (I; R = H) (II), is the drug of choice for the treatment of lead-poisoning. II is excreted in the urine of lead-poisoned rabbits as a conjugate with two mols. of cysteine. To confirm this, and to examine the hypothesis that II may be acting as a prodrug, bisdisulfide I [R = (R)-SCH₂CH(NH₂)CO₂H] was prepared using novel methodol. based on the use of sulfenimides derived from cysteine.

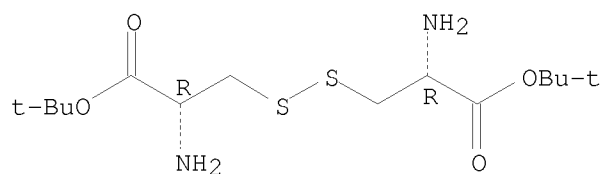
IT 38261-78-8, Cystine di-tert-butyl ester dihydrochloride
RL: PROC (Process)

(Schiff base formation of, with benzophenone imine)

RN 38261-78-8 CAPLUS

CN L-Cystine, 1,1'-bis(1,1-dimethylethyl) ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



● 2 HCl

L5 ANSWER 99 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1992:485098 CAPLUS

DOCUMENT NUMBER: 117:85098

ORIGINAL REFERENCE NO.: 117:14735a,14738a

TITLE: Protective compounds against toxic electrophilic agents, and method for their use

INVENTOR(S): Upshall, David Glyndwr; Lawston, Ian William

PATENT ASSIGNEE(S): United Kingdom Secretary for Defence, UK

SOURCE: PCT Int. Appl., 31 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9204024	A2	19920319	WO 1991-GB1462	19910830
WO 9204024	A3	19920514		
W:	AT, AU, BB, BG, BR, CA, CH, DE, DK, ES, FI, GB, HU, JP, KP, KR, LK, LU, MC, MG, MW, NL, NO, PL, RO, SD, SE, SU, US			
RW:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE			
CA 2089158	A1	19920301	CA 1991-2089158	19910830
AU 9185255	A	19920330	AU 1991-85255	19910830
AU 652183	B2	19940818		
EP 546063	A1	19930616	EP 1991-916323	19910830
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE			
GB 2262446	A	19930623	GB 1993-657	19910830
GB 2262446	B	19950315		

JP 06500113 T 19940106 JP 1991-515492 19910830
 PRIORITY APPLN. INFO.: GB 1990-18994 A 19900831
 WO 1991-GB1462 A 19910830

OTHER SOURCE(S): MARPAT 117:85098

AB Compds. of formula $ZC(O)CH(CH_2R_1)NR_2R_3$ [$R_1=SH$, $SSCH_2CH(NR_2R_3)COZ$, XR_4 ; R_2 , $R_3 = H$, COR_5 , (halo- CF_3 -substituted) alkylalkenyl, aryl, aralkyl; R_4 , $R_5 =$ (halo- or CF_3 -substituted) alkyl, alkenyl, aryl, or aralkyl; $Z =$ (halo- or CF_3 -substituted) alkoxy, alkenyloxy, aryloxy, or aralkoxy; $X = SS$, $S(O)$] are prepared as protectants of the human or animal body against the toxic effects of an electrophilic agent or a metabolic precursor thereof. Examples of electrophilic agents are acrolein, $HCHO$, some organofluorine compds. phosgene, S mustards, bromobenzene, thioureas, and O at high concns. Thus, death from pulmonary edema in rats exposed to fumes of perfluoroisobutene was prevented by i.p. administration of L-cysteine di-Me ester (1.5 mmol/kg) and other cysteine and cystine esters. The protective compds. may be applied transdermally or via intrapulmonary liposomes, e.g. in industrial, rescue, recovery, or military applications.

IT 1069-29-0

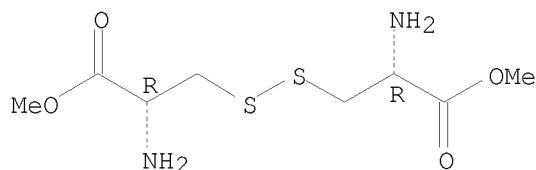
RL: BIOL (Biological study)

(as antidote, for poisoning with electrophiles)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 100 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1992:470333 CAPLUS

DOCUMENT NUMBER: 117:70333

ORIGINAL REFERENCE NO.: 117:12399a,12402a

TITLE: N-retinoyl-L-aminomercapto compounds
 (N-retinoyl-L-cysteine), their preparation and use for
 treatment of diseases of mucous membranes

PATENT ASSIGNEE(S): Hermes Fabrik Pharmazeutischer Praeparate Franz
 Gradinger GmbH und Co., Germany

SOURCE: Ger. Offen., 54 pp.

CODEN: GWXXBX

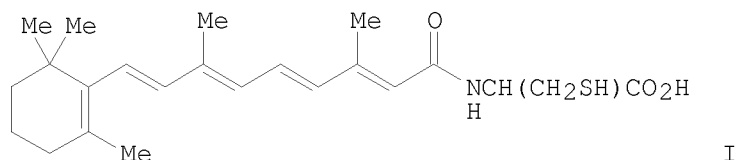
DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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DE 4032187	A1	19920416	DE 1990-4032187	19901010
DE 4032187	C2	19950330		
PRIORITY APPLN. INFO.:			DE 1990-4032187	19901010
OTHER SOURCE(S):		CASREACT 117:70333; MARPAT 117:70333		
GI				



AB Certain N-retinoyl-L-[(thiohydrocarbyl)amino] compds., e.g. N-retinoyl-L-cysteine (I), and intermediates for their preparation are claimed. Processes for the preparation of said compds. and their intermediates are claimed. The use of these compds. is claimed for the treatment of diseases of the mucous membranes, e.g., chronic bronchitis, neoplasia, silicosis, urethritis, etc.

IT 142601-71-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and amidation of, with retinoic acid)

RN 142601-71-6 CAPLUS

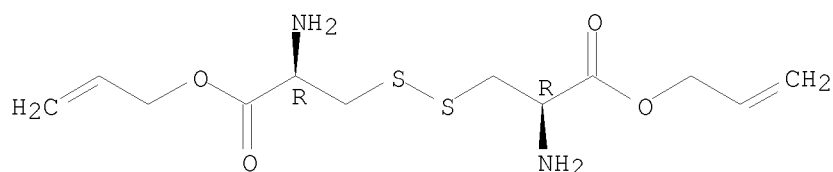
CN L-Cystine, 1,1'-di-2-propen-1-yl ester, 4-methylbenzenesulfonate (1:2)
 (CA INDEX NAME)

CM 1

CRN 142601-70-5

CMF C12 H20 N2 O4 S2

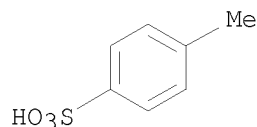
Absolute stereochemistry.



CM 2

CRN 104-15-4

CMF C7 H8 O3 S



REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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=> d 15 ibib abs hitstr 101-

YOU HAVE REQUESTED DATA FROM 317 ANSWERS - CONTINUE? Y/(N):y

L5 ANSWER 101 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1992:470332 CAPLUS

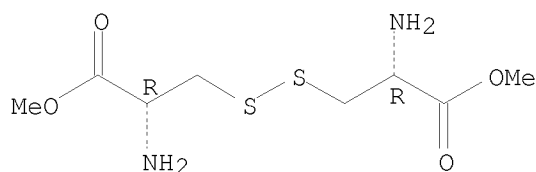
DOCUMENT NUMBER: 117:70332

ORIGINAL REFERENCE NO.: 117:12399a,12402a
 TITLE: S-retinoyl-L-aminomercapto compounds
 (S-retinoyl-L-cysteine), their preparation and use for
 treatment of diseases of mucous membranes
 PATENT ASSIGNEE(S): Hermes Fabrik Pharmazeutischer Praeparate Franz
 Gradinger GmbH und Co., Germany
 SOURCE: Ger. Offen., 41 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 4032163	A1	19920416	DE 1990-4032163	19901010
DE 4032163	C2	19950330		

PRIORITY APPLN. INFO.: DE 1990-4032163 19901010
 OTHER SOURCE(S): CASREACT 117:70332; MARPAT 117:70332
 GI For diagram(s), see printed CA Issue.
 AB Certain S-retinoyl-L-[(aminohydrocarbyl)mercapto]-compds., e.g.
 S-retinoyl-L-cysteine (I), and intermediates for their preparation are claimed.
 Processes for the preparation of said compds. and their intermediates are
 claimed. The use of these compds. is claimed for the treatment of
 diseases of the mucous membranes, e.g. chronic bronchitis, neoplasia,
 silicosis, urethritis, etc.
 IT 1069-29-0P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and allylation of)
 RN 1069-29-0 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 102 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1992:465338 CAPLUS
 DOCUMENT NUMBER: 117:65338
 ORIGINAL REFERENCE NO.: 117:11391a,11394a
 TITLE: Substrate specificity of isopenicillin N synthase
 AUTHOR(S): Huffman, George W.; Gesellchen, Paul D.; Turner, Jan
 R.; Rothenberger, Robert B.; Osborne, Harold E.;
 Miller, F. Dean; Chapman, Jerry L.; Queener, Stephen
 W.
 CORPORATE SOURCE: Lilly Res. Lab., Eli Lilly and Co., Indianapolis, IN,
 46285, USA
 SOURCE: Journal of Medicinal Chemistry (1992), 35(10),
 1897-914
 CODEN: JMCMAR; ISSN: 0022-2623
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Highly purified isopenicillin N synthase (IPNS) from 2 sources (naturally

occurring in *Penicillium chrysogenum* and that expressed in *Escherichia coli* via a cloned gene derived from *Cephalosporium acremonium*) were isolated and utilized in vitro to test synthetic modifications of the natural substrate, (L- α -amino- δ -adipyl)-L-cysteinyl-D-valine (ACV). A very sensitive procedure utilizing the ability of β -lactams to induce the synthesis of β -lactamase was employed to determine whether an ACV analog could serve as a substrate for IPNS. A wide variety of N- and C-terminal tripeptide substitutions were examined and found to elicit pos. β -lactamase induction profiles. However, none of these modifications were found to function as efficiently as a substrate as ACV. One of the β -lactam products which was formed from the reaction of IPNS and the tripeptide analog was independently synthesized and evaluated for antibacterial activity. The modification of the L-cysteine residue in the 2nd position of ACV resulted in tripeptides that were unable to serve as substrates. Conversion of the D-valine residue in the 3rd position of ACV to an aromatic amino acid or to a highly electroneg. residue, such as trifluorovaline, resulted in elimination of substrate activity and creation of an inhibitor of the enzyme.

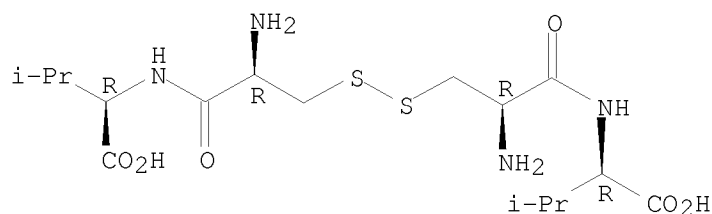
IT 71301-35-4P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and isopenicillin N synthase specificity for)

RN 71301-35-4 CAPLUS

CN D-Valine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

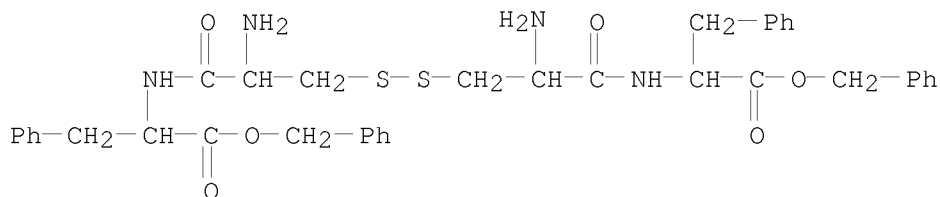


IT 141043-95-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and reaction with amino adipic acid derivative)

RN 141043-95-0 CAPLUS

CN D-Phenylalanine, L-cysteinyl-, phenylmethyl ester, bimol.
(1 \rightarrow 1')-disulfide, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

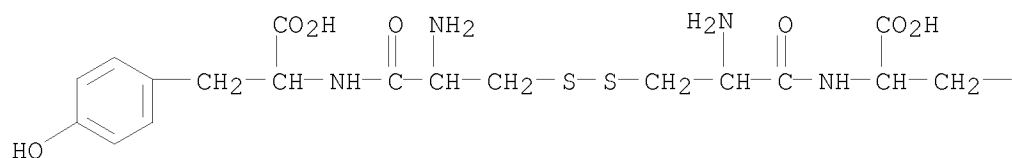
IT 141116-67-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

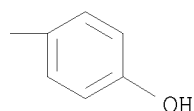
RN 141116-67-8 CAPLUS

CN D-Tyrosine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

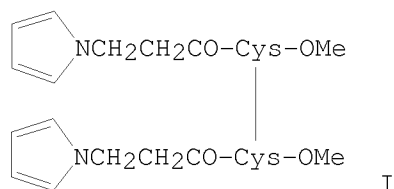
PAGE 1-A



PAGE 1-B



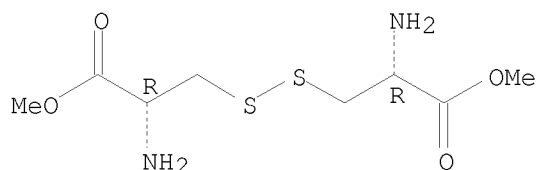
L5 ANSWER 103 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1992:449216 CAPLUS
 DOCUMENT NUMBER: 117:49216
 ORIGINAL REFERENCE NO.: 117:8807a,8810a
 TITLE: Synthesis and anodic polymerization of an L-cystine derivatized pyrrole; copolymerization with a tetraalkylammonium pyrrole allows reduction of the cystinyl film to a cysteinyl state that binds electroactive {Fe4S4}2+ centers
 AUTHOR(S): Pickett, Christopher J.; Ryder, Karl S.; Moutet, Jean Claude
 CORPORATE SOURCE: Inst. Plant Sci. Res., AFRC, Brighton, BN1 9RQ, UK
 SOURCE: Journal of the Chemical Society, Chemical Communications (1992), (9), 694-7
 CODEN: JCCCAT; ISSN: 0022-4936
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI



AB The cystine-derivatized pyrrole I is synthesized, and stable neutral polymers or cationic copolymers are produced by anodic oxidation at Pt and glassy carbon electrodes. Chemical reduction of cystine-tetraalkylammonium cofunctionalized films gives ion-exchange polymers with pendant cysteinyl groups and these thiolate films tightly bind [Fe4S4]2+ centers giving an electrode-polymer assembly with electroactive, cysteinyl ligated, ferredoxin-like units.
 IT 1069-29-0, Cystine dimethyl ester
 RL: RCT (Reactant); RACT (Reactant or reagent)

(amidation of, with pyrrolylpropionic acid)
RN 1069-29-0 CAPLUS
CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



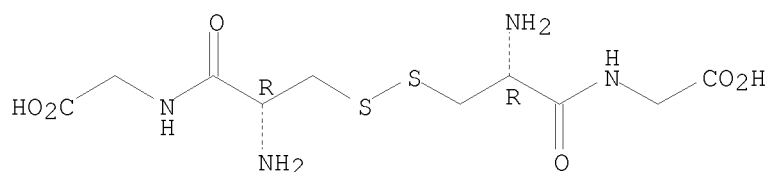
L5 ANSWER 104 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1992:445942 CAPLUS
DOCUMENT NUMBER: 117:45942
ORIGINAL REFERENCE NO.: 117:8151a,8154a
TITLE: Cysteine oxidation by the postischemic rat kidney
AUTHOR(S): Scaduto, Russell C., Jr.; Grottyhann, Lee W.
CORPORATE SOURCE: Milton S. Hershey Med. Cent., Pennsylvania State Univ., Hershey, PA, 17033, USA
SOURCE: American Journal of Physiology (1992), 262(5, Pt. 2), F777-F783
CODEN: AJPHAP; ISSN: 0002-9513
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Renal levels of glutathione are markedly decreased during periods of renal ischemia due to catabolism to cysteine. The authors previously demonstrated that cysteine accumulates in the tissue as the thiol during ischemia, and resumption of blood flow causes a transient elevation of cysteine levels in the renal venous effluent and return of tissue cysteine levels to control values. In this study, the oxidation state of renal venous cyst(e)ine was determined. Although cysteine accumulated as the reduced thiol during ischemia, cysteine released into the renal vein upon blood reflow was almost entirely in the disulfide form. To distinguish between oxidation of arterial cysteine and renal cysteine formed from ischemia-induced GSH catabolism, a labeling procedure was developed to label kidney GSH with 35S without labeling of arterial plasma cyst(e)ine. With this procedure, the source of oxidized cysteine that appeared in the renal venous plasma after ischemia was identified as resulting from renal GSH catabolism. The data indicate that a rapid oxidation process occurs during the initial period of blood reflow to the postischemic kidney. After 35 min of ischemia, 3 μ mol cysteine/g dry weight were released from the kidney and oxidized. Cysteine oxidation is also expected to generate oxygen-centered free radicals. Pretreatment of animals with deferoxamine, a iron chelator, was without effect on the relative amount of venous cysteine in the oxidized form, arguing against a role for free iron in this oxidative process. In control animals given cysteine, the redox status of plasma cyst(e)ine remained stable, suggesting that the renal oxidation of cysteine is a unique feature of the postischemic kidney. Thus, cysteine oxidation occurs in the postischemic kidney and this could function as a source of free radicals during the initial period of blood reflow.

IT 7729-20-6
RL: BIOL (Biological study)
(of kidney, ischemia and reperfusion effects on)

RN 7729-20-6 CAPLUS
CN Glycine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 105 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1992:233221 CAPLUS

DOCUMENT NUMBER: 116:233221

ORIGINAL REFERENCE NO.: 116:39467a, 39470a

TITLE: Description of a selection method highly cytotoxic for cystinotic fibroblasts but not normal human fibroblasts

AUTHOR(S): Pisoni, Ronald L.; Lemons, Rosemary M.; Paelicke, Karen M.; Thoene, Jess G.

CORPORATE SOURCE: Med. Sch., Univ. Michigan, Ann Arbor, MI, 48109-2029, USA

SOURCE: Somatic Cell and Molecular Genetics (1992), 18(1), 1-6
CODEN: SCMGDN; ISSN: 0740-7750

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Nephropathic cystinosis is an inherited disorder characterized by a high intralysosomal accumulation of cystine due to a defect in lysosomal cystine transport. Cystine can be specifically loaded into the lysosomal compartment of intact cells by incubating cells with cystine di-Me ester (CDME). This Me ester loading technique was used to develop a selection method that is highly cytotoxic for cystinotic fibroblasts but not normal human fibroblasts and that is based on the inherent differences in lysosomal cystine transport activity of normal and cystinotic fibroblasts. Thus, only 0-0.03% of fetal cystinotic fibroblasts survive exposure to 2 mM CDME for 20 min, whereas 70-80% of normal fetal fibroblasts survive these same conditions. Following transfection of cystinotic fibroblasts with normal human genomic DNA or cDNA, this CDME selection method can be used to select for those cells that have been transformed to the normal phenotype and thus aid in the identification of the gene coding for the lysosomal cystine transport protein.

IT 1069-29-0, Cystine dimethyl ester

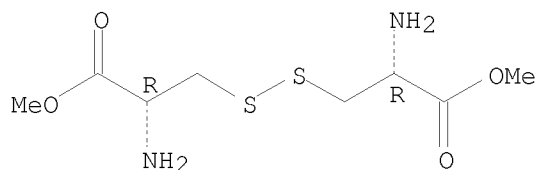
RL: BIOL (Biological study)

(in selection of cystinolytic fibroblast of human, lysosomal cystine transport defect in relation to)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 106 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1992:227733 CAPLUS

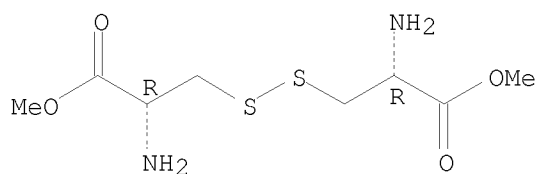
DOCUMENT NUMBER: 116:227733

ORIGINAL REFERENCE NO.: 116:38319a, 38322a

TITLE: Nalidixic acid prodrugs: amides from amino acid esters and nalidixic acid

AUTHOR(S): Kohli, D. V.; Uppadhyay, R. K.; Saraf, S. K.;
Vishwakarma, K. K.
CORPORATE SOURCE: Dep. Pharm. Sci., Dr. H. S. Gour Vishwavidyalaya,
Sagar, 470 003, India
SOURCE: Pharmazie (1992), 47(1), 57-9
CODEN: PHARAT; ISSN: 0031-7144
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Amides of nalidixic acid (I) with arginine, cystine, or histidine Me ester
were prepared. The arginine and histidine esters showed enhanced
bactericidal activity over I. The esters were hydrolyzed at simulated
intestinal pH (7.4) but not at simulated gastric pH (1.2). Plasma protein
binding was decreased relative to I.
IT 22888-38-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(acylation of, by nalidixoyl chloride)
RN 22888-38-6 CAPLUS
CN L-Cystine, dimethyl ester, hydrochloride (9CI) (CA INDEX NAME)

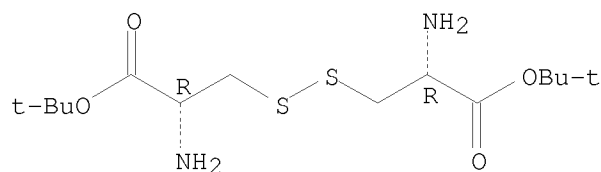
Absolute stereochemistry.



●x HCl

L5 ANSWER 107 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1992:152351 CAPLUS
DOCUMENT NUMBER: 116:152351
ORIGINAL REFERENCE NO.: 116:25813a,25816a
TITLE: Synthesis of α -Fmoc protected derivatives of
S-(2,3-dihydroxypropyl)-cysteine and their application
in peptide synthesis
AUTHOR(S): Metzger, Joerg W.; Wiesmueller, Karl Heinz; Jung,
Guenther
CORPORATE SOURCE: Inst. Org. Chem., Univ. Tuebingen, Tuebingen, D-7400,
Germany
SOURCE: International Journal of Peptide & Protein Research
(1991), 38(6), 545-54
CODEN: IJPPC3; ISSN: 0367-8377
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A new convenient synthetic pathway for the preparation of
tripalmitoyl-S-glycerylcysteinyl peptides is described. The use of
 α -9-fluorenylmethoxycarbonyl (Fmoc) protected
S-(2,3-dihydroxypropyl)cysteine and its O,O'-bis acylated derivs. for the
synthesis of triacyl-S-glycerylcysteinyl,
O,O'-bisacyl-S-glycerylcysteinyl, and S-glycerylcysteinyl peptides of high
diastereomeric purity by solid phase peptide synthesis or synthesis in
solution is demonstrated.
IT 62574-13-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(fluorenylmethoxycarbonylation of)
RN 62574-13-4 CAPLUS
CN L-Cystine, 1,1'-bis(1,1-dimethylethyl) ester (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



L5 ANSWER 108 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1992:102002 CAPLUS

DOCUMENT NUMBER: 116:102002

ORIGINAL REFERENCE NO.: 116:17141a,17144a

TITLE: Determination of the in vivo redox status of cysteine, cysteinylglycine, homocysteine, and glutathione in human plasma

AUTHOR(S): Mansoor, Mohammad A.; Svardal, Asbjorn M.; Ueland, Per M.

CORPORATE SOURCE: Dep. Pharmacol. Toxicol., Univ. Bergen, Bergen, 5021, Norway

SOURCE: Analytical Biochemistry (1992), 200(2), 218-29

CODEN: ANBCA2; ISSN: 0003-2697

DOCUMENT TYPE: Journal

LANGUAGE: English

AB An assay that measures the reduced, oxidized, and protein-bound forms of cysteine, cysteinylglycine, homocysteine, and glutathione in human plasma is described. Oxidized and protein-bound thiols are converted to their reduced counterparts by the use of NaBH₄, and, following derivatization with monobromobimane (mBrB), the thiol-bimane adducts are quantified by reversed-phase ion-pair liquid chromatog. and fluorescence detection. The presence of 50 μ M dithioerythritol provides linearity of the standard curves at very low thiol concns. Selective determination of the oxidized forms was accomplished by blocking free sulfhydryl groups with N-ethylmaleimide (NEM) and excess NEM is inactivated by the subsequent addition of NaBH₄. The reduced forms of the thiols in plasma were trapped with minimal oxidation by derivatizing blood samples at the time of collection. This was attained by drawing blood directly into tubes containing isotonic solns. of mBrB or NEM. The assay is sufficiently sensitive (<2 pmol) to detect the various forms of the four thiol compds. in human plasma. The anal. recovery of cysteine, cysteinylglycine, homocysteine, and glutathione was close to 100%, and the within-day precision corresponded to a coefficient of variation of 7, 8, 6, and 7%, resp. The assay has been used to determine the various forms of the four thiol compds. in human plasma.

IT 7729-20-6

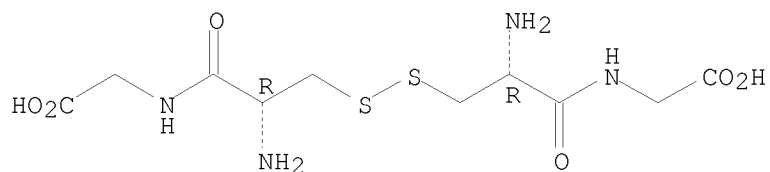
RL: ANT (Analyte); ANST (Analytical study)

(determination of, in human blood, HPLC method for)

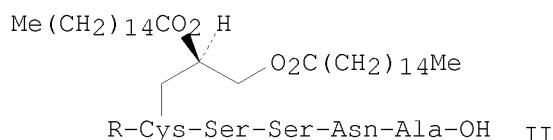
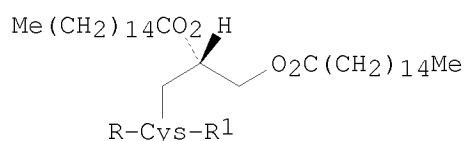
RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.

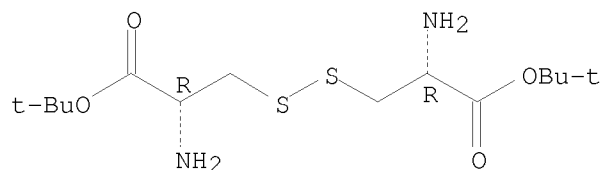


L5 ANSWER 109 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1992:84163 CAPLUS
 DOCUMENT NUMBER: 116:84163
 ORIGINAL REFERENCE NO.: 116:14359a,14362a
 TITLE: Synthesis of optically active lipopeptide analogs from the outer membrane of Escherichia coli
 AUTHOR(S): Kurimura, Muneaki; Takemoto, Masumi; Achiwa, Kazuo
 CORPORATE SOURCE: Sch. Pharm. Sci., Univ. Shizuoka, Shizuoka, 422, Japan
 SOURCE: Chemical & Pharmaceutical Bulletin (1991), 39(10), 2590-6
 CODEN: CPBTAL; ISSN: 0009-2363
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 116:84163
 GI



AB The synthesis of optically active lipopeptide derivs. I [R = H, C13CCH2O2C (Troc), Me(CH2)14CO; R1 = OH, Ser-OH, Ser-Ser-OH, Ser-Ser-Asn-OH, Ser-Ser-Asn-Ala-OH] and II [R = Troc, Me(CH2)14CO] has been accomplished by the use of chiral glycerol derivs. Lipopeptide derivs. I with (R)-glycerol moieties showed higher mitogenic activities than II with (S)-glycerol moieties. Troc lipopeptide derivs. increased mitogenic activity.
 IT 62574-13-4
 RL: PROC (Process)
 (N-protection of, with trichloroethoxycarbonyl chloride)
 RN 62574-13-4 CAPLUS
 CN L-Cystine, 1,1'-bis(1,1-dimethylethyl) ester (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



L5 ANSWER 110 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1991:650821 CAPLUS
 DOCUMENT NUMBER: 115:250821
 ORIGINAL REFERENCE NO.: 115:42533a,42536a
 TITLE: Activation of rabbit liver high affinity cAMP (type IV) phosphodiesterase by a vanadyl-glutathione

complex. Characterization of the role of the
sulfhydryl

AUTHOR(S): Thompson, W. Joseph; Tan, Boen H.; Strada, Samuel J.
CORPORATE SOURCE: Coll. Med., Univ. South Alabama, Mobile, AL, 36688,
USA

SOURCE: Journal of Biological Chemistry (1991), 266(26),
17011-19
CODEN: JBCHA3; ISSN: 0021-9258

DOCUMENT TYPE: Journal
LANGUAGE: English

AB Activation of rabbit liver microsomal high affinity cAMP phosphodiesterase
(Type IV PDE) by vanadyl-glutathione complexes was studied as a possible
model of insulin stimulation of the enzyme in a cell-free system. The
effect of VO·2GSH activation of PDE was a 21-fold decrease in the
IC50 value for cGMP inhibition and a 2.6-fold increase in the Vmax of the
higher affinity cAMP catalytic site. The cAMP and cGMP substrate
affinities and cGMP hydrolysis were unaffected by VO·2GSH
activation. Selective Type IV PDE inhibitors and cGMP analogs indicated
that VO·2GSH complexes activated the cGMP-inhibitable form of the
Type IV PDE activities which colocalized in hepatic microsomes. The Type
IV PDE activating complex appears to consist minimally of vanadyl ion and
2 oxidized electron donor compds. The components of the electron donor
required to achieve an enzyme activation complex are: (1) a free -SH group
as the electron donor for vanadate reduction, and (2) a min. structure of
cysteamine (NH2-CH2-CH2-SH). Maximal activation of the enzyme required
near 2:1 molar ratios of either glutathione or cysteamine mixed with
sodium orthovanadate. Active vanadyl-cysteamine complexes were isolated
by reverse-phase high performance liquid chromatog. Tungsten, niobium, and
tantalum, but not manganese, chromium, or molybdenum, substituted for
vanadium to form enzyme-activating complexes with glutathione.
VO·RSH complex activation occurred rapidly upon addition to microsomes
and was reversible. Thus, VO·RSH complexes and insulin activate
the same form of Type IV PDE in rabbit liver microsomes; these findings
are discussed with respect to the involvement of a possible electron
transfer enzyme oxidation in the activation mechanism.

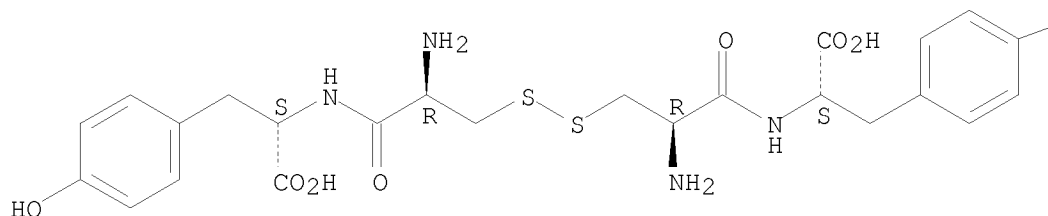
IT 7369-94-0D, vanadyl complexes 7729-20-6D, vanadyl
complexes 20898-21-9D, vanadyl complexes
RL: BIOL (Biological study)
(cAMP phosphodiesterase of liver activation by, structure and
sulfhydryl requirements in relation to)

RN 7369-94-0 CAPLUS

CN L-Tyrosine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX
NAME)

Absolute stereochemistry.

PAGE 1-A

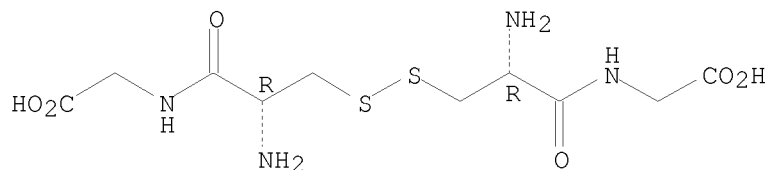


PAGE 1-B

—OH

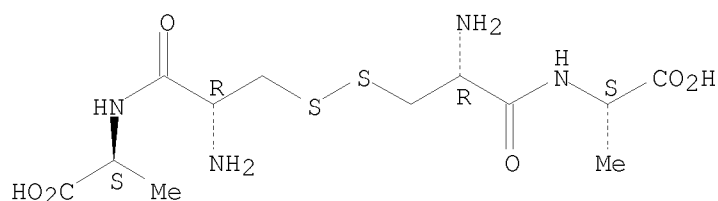
RN 7729-20-6 CAPLUS
CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



RN 20898-21-9 CAPLUS
CN L-Alanine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

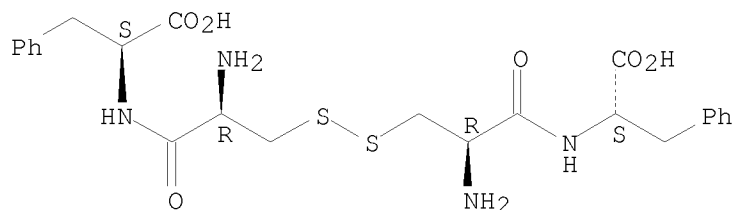


L5 ANSWER 111 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1991:554162 CAPLUS
DOCUMENT NUMBER: 115:154162
ORIGINAL REFERENCE NO.: 115:26279a,26282a
TITLE: Measurement of biological thiols and disulfides by high-performance liquid chromatography and electrochemical detection of silver mercaptide formation
AUTHOR(S): Kuninori, Toyo; Nishiyama, Junko
CORPORATE SOURCE: Osaka Women's Univ., Sakai, 590, Japan
SOURCE: Analytical Biochemistry (1991), 197(1), 19-24
CODEN: ANBCA2; ISSN: 0003-2697
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A rapid and sensitive method is described for the measurement of picomole levels of the biol. thiols glutathione, cysteine, penicillamine, cysteamine, and ergothioneine by a combination of HPLC and electrochem. detection (ECD). The compds. were separated isocratically on a reversed-phase C18 column by ion-pair chromatog. with a mobile phase containing 5 mM acetic acid and 2.5 mM sodium 1-octanesulfonate. After chromatog. separation, the eluate was combined with silver nitrate dissolved in ammonium nitrate buffer at pH 10.5. A platinum disc electrode was used at -0.1 V vs. Ag/AgCl to detect the amount of silver ions that had been consumed by the reaction with thiols. For measurement of disulfide, S-sulfonation with sodium sulfite or electroredn. was used to cleave the disulfide, and the thiol anions produced were detected by HPLC-ECD as for the reduced forms. The method was used to assay thiols and disulfides in biol. materials.

IT 62130-80-7
RL: ANT (Analyte); ANST (Analytical study)
(determination of, HPLC and electrochem. detection method for)
RN 62130-80-7 CAPLUS
CN L-Phenylalanine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 112 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1991:505443 CAPLUS

DOCUMENT NUMBER: 115:105443

ORIGINAL REFERENCE NO.: 115:17873a,17876a

TITLE: Human lymphokine-activated killer (LAK) cells. II. Studies of various L-amino acid methyl esters on LAK generation at high cell density

AUTHOR(S): Leung, Kam H.

CORPORATE SOURCE: Med. Prod. Dep., E.I. du Pont de Nemours and Co., Glenolden, PA, 19036, USA

SOURCE: International Journal of Immunopharmacology (1991), 13(4), 401-9

CODEN: IJIMDS; ISSN: 0192-0561

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Nineteen L-amino acid Me esters were studied for their cytotoxic activity on human monocytes, natural killer (NK) activity, and lymphokine-activated killer cell (LAK) activation by interleukin-2 at high cell d. Phe, Met, Trp, Cys, Tyr, Asp, and GLu Me esters depleted monocytes from human peripheral mononuclear cells, caused inhibition of NK activity, and allowed LAK activation at high cell d. Ala, Val, and Pro Me esters were marginal. Gly, Ser, Thr, Lys, His, and Arg Me esters were not active. Leu, Ile, and Cystine Me esters depleted monocytes and also NK activity: LAK activation was suppressed. The D-isomers of Met, Tyr, and Trp Me esters were not active as Glu(OMe)₂. Phenylalanine tert-Bu ester was not as active as the Me or Et esters. This indicates that the breakage of the ester bond is the rate-limiting step for the actions of the Phe alkyl esters. Seven L-amino acid amides (Ile, Leu, Phe, Val, Glu, Asp, and Tyr) were studied and only Ile, Leu, and Phe amide, were active. Isoleucine and Leu amides depleted monocytes with little inhibitory effect on NK activity and thus allowed LAK activation. The depletion of monocytes by the amino acid Me esters and the amides allowed LAK activation at high cell d.

IT 1069-29-0

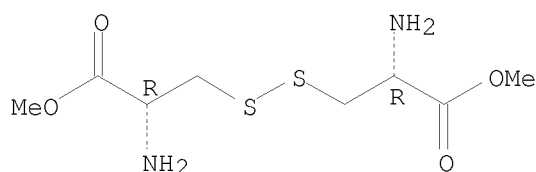
RL: BIOL (Biological study)

(monocyte killer cells activation by, in human, structure in relation to)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 113 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1991:472194 CAPLUS

DOCUMENT NUMBER: 115:72194

ORIGINAL REFERENCE NO.: 115:12507a,12510a

TITLE: Structure and synthesis of an immunoactive lipopeptide, WS1279, of microbial origin

AUTHOR(S): Tsuda, Yuko; Okada, Yoshio; Tanaka, Miho; Shigematsu, Nobuharu; Hori, Yasuhiro; Goto, Toshio; Hashimoto, Masashi

CORPORATE SOURCE: Fac. Pharm. Sci., Kobe-Gakuin Univ., Kobe, 651-21, Japan

SOURCE: Chemical & Pharmaceutical Bulletin (1991), 39(3), 607-11

CODEN: CPBTAL; ISSN: 0009-2363

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 115:72194

AB The structure of WS1279, isolated from Streptomyces sp. as an immunoactive lipopeptide, has been deduced on the basis of chemical and phys. evidence as S-[2,3-bis(palmitoyloxy)propyl]-N α -palmitoyl-Cys-Asn-Ser-Gly-Gly-Ser-OH. This was confirmed by synthesis.

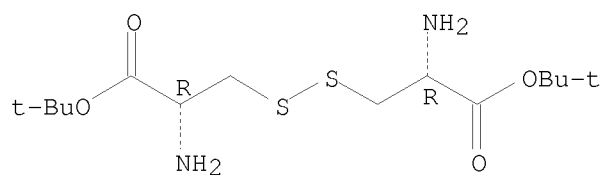
IT 62574-13-4 85806-66-2

RL: RCT (Reactant); RACT (Reactant or reagent)
(tert-butoxycarbonylation of)

RN 62574-13-4 CAPLUS

CN L-Cystine, 1,1'-bis(1,1-dimethylethyl) ester (CA INDEX NAME)

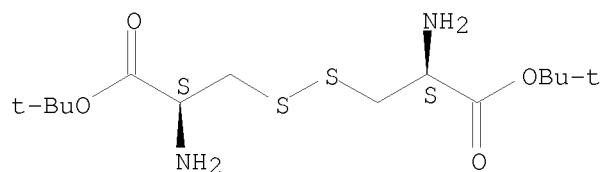
Absolute stereochemistry. Rotation (-).



RN 85806-66-2 CAPLUS

CN D-Cystine, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 114 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1991:467748 CAPLUS

DOCUMENT NUMBER: 115:67748

ORIGINAL REFERENCE NO.: 115:11607a,11610a

TITLE: A technique for stable adhesion of DNA to a modified graphite surface for imaging by scanning tunneling microscopy

AUTHOR(S): Lyubchenko, Yu. L.; Lindsay, S. M.; DeRose, J. A.; Thundat, T.

CORPORATE SOURCE: Inst. Mol. Genet., Moscow, 123182, USSR

SOURCE: Journal of Vacuum Science & Technology, B:

Microelectronics and Nanometer Structures (1991), 9(2,
Pt. 2), 1288-90

CODEN: JVTBD9; ISSN: 0734-211X

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A procedure was developed in which mercurated DNA is covalently bonded to a modified graphite surface. This technique allows for stable adhesion of the DNA that enables imaging of it with the scanning tunneling microscope. The method is outlined in this paper and images are presented of a partially modified graphite surface and one completely modified with DNA attached. The DNA images demonstrate B-helix periodicity.

IT 1069-29-0

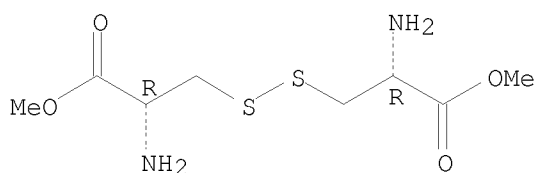
RL: ANST (Analytical study)

(graphite modification with, for scanning tunneling microscopy of DNA)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 115 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1991:429905 CAPLUS

DOCUMENT NUMBER: 115:29905

ORIGINAL REFERENCE NO.: 115:5277a, 5280a

TITLE: Synthesis of bis-pentapeptides containing leucine, alanine, phenylalanine, and cystine or 3-mercaptopropionic acid

AUTHOR(S): Vezenkov, L.; Mladenova-Orlinova, L.; Zankov, I.

CORPORATE SOURCE: Dep. Org. Chem., Higher Inst. Chem. Technol., Sofia, 1156, Bulg.

SOURCE: Doklady Bolgarskoi Akademii Nauk (1990), 43(12), 49-52

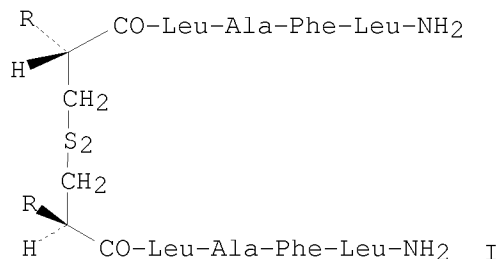
CODEN: DBANAD; ISSN: 0366-8681

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 115:29905

GI

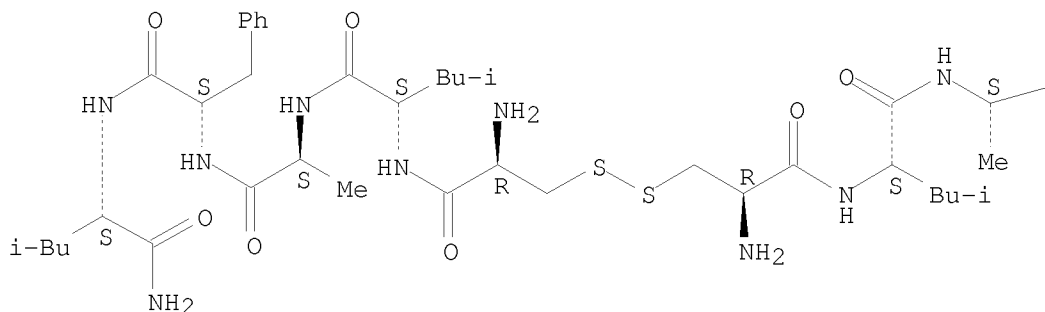


AB The title peptides I (R = H, NH₂) were prepared by 2 + 3 solution couplings. The disulfide bonds were made by treatment of the deblocked pentapeptides with O.

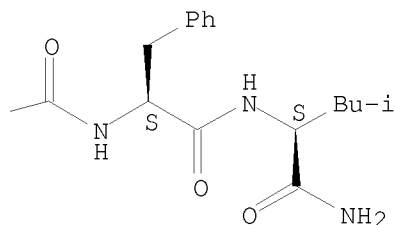
IT 134518-22-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 134518-22-2 CAPLUS
 CN L-Leucinamide, L-cysteinyl-L-leucyl-L-alanyl-L-phenylalanyl-, bimol.
 (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



L5 ANSWER 116 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1991:402738 CAPLUS
 DOCUMENT NUMBER: 115:2738
 ORIGINAL REFERENCE NO.: 115:563a,566a
 TITLE: Nickel(II) complexes of histidyl-peptides as
 Fenton-reaction catalysts
 AUTHOR(S): Torreilles, Jean; Guerin, Marie Christine;
 Slaoui-Hasnaoui, Amal
 CORPORATE SOURCE: INSERM, Montpellier, 34090, Fr.
 SOURCE: Free Radical Research Communications (1990), 11(1-3),
 159-66
 CODEN: FRRCEX; ISSN: 8755-0199
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Addition of histidyl-peptides containing the glycylglycyl-L-histidyl sequence
 stimulated the catalysis of Ni(II) hydrogen peroxide reduction Maximum
 bleaching
 of murexide or nitrosodimethylaniline was obtained with
 glycylglycyl-L-histidine. A decrease in the bleaching rates was observed
 upon addition of superoxide dismutase or hydroxyl radical scavengers, showing
 that the hydrogen peroxide/Ni(II)glycylglycyl-L-histidine system generated
 superoxide anions as well as hydroxyl radicals. In contrast, addition of
 glycylglycyl-L-histidine inhibited the Cu(II) hydrogen peroxide reduction
 When peptides or proteins were exposed to oxygen radicals produced by
 NI(II)/glycylglycyl-L-histidine catalysis of hydrogen peroxide reduction, the
 observed effects were similar to those produced by oxygen radicals generated

by water radiolysis or by Fe(II) or Cu(II) mediated Fenton-reactions: hydroxylation of phenylalanine, interchange of disulfides, destruction of tryptophans, and dityrosine formation.

IT 7369-94-0, L-Cystinyl-bis(L-tyrosine) 62130-80-7

RL: BIOL (Biological study)

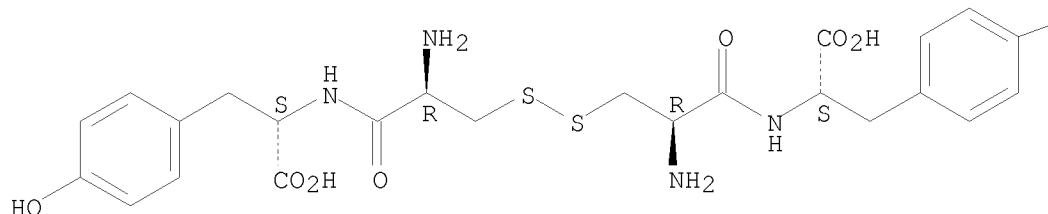
(glycylglycylhistidine and hydrogen peroxide and nickel modification of)

RN 7369-94-0 CAPLUS

CN L-Tyrosine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



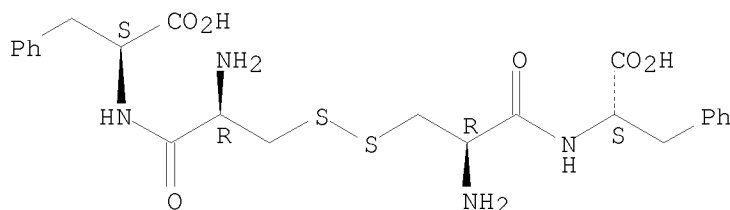
PAGE 1-B

OH

RN 62130-80-7 CAPLUS

CN L-Phenylalanine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 117 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1991:101221 CAPLUS

DOCUMENT NUMBER: 114:101221

ORIGINAL REFERENCE NO.: 114:17245a, 17248a

TITLE: 1-[4-(N-Chlorocarbonyl-N-methylamino)phenyl]-2-(phenylsulfonyl)diazene, a bifunctional reagent with a protected diazonium function

AUTHOR(S): Kessler, Pascal; Chatrenet, Benoit; Goeldner, Maurice; Hirth, Christian

CORPORATE SOURCE: Fac. Pharm., Univ. Louis Pasteur Strasbourg, Illkirch, F-67401, Fr.

SOURCE: Synthesis (1990), (11), 1065-8

CODEN: SYNTBF; ISSN: 0039-7881

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 114:101221

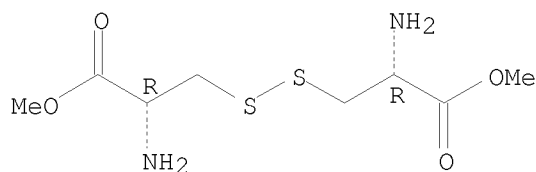
AB The preparation of 4-(ClOCNMe)C₆H₄N:NSO₂Ph (I) was described. I is a bifunctional reagent. The reaction of I with nucleophiles gave [[[alkylamino)carbonyl]amino]phenyl](phenylsulfonyl)diazene derivs. (RCONMe)C₆H₄N:NSO₂Ph (R = BuNH, PhCH₂NH, piperidino, PhNMe, 4-MeOC₆H₄O, etc.). The deprotection of the latter gave [(RCONMe)C₆H₄+*tplbond*.N]SO₂Ph (same R) which upon anion exchange gave the resp. diazonium chlorides, i.e. [(RCONMe)C₆H₄+*tplbond*.N]Cl (same R). The (phenylsulfonyl)diazenes, are photosensitive compds.

IT 1069-29-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with [[(chlorocarbonyl)methylamino]phenyl](phenylsulfonyl)
)diazene as bifunctional reagent)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 118 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1991:79131 CAPLUS

DOCUMENT NUMBER: 114:79131

ORIGINAL REFERENCE NO.: 114:13447a,13450a

TITLE: Effect of cystine loading and cystine dimethylester on renal brushborder membrane transport

AUTHOR(S): Foreman, John W.; Benson, Linda

CORPORATE SOURCE: Med. Coll. Virginia, Virginia Commonw. Univ., Richmond, VA, 23298, USA

SOURCE: Bioscience Reports (1990), 10(5), 455-9
 CODEN: BRPTDT; ISSN: 0144-8463

DOCUMENT TYPE: Journal

LANGUAGE: English

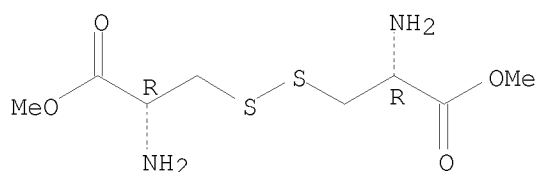
AB The effect of loading renal tubule cells with cystine was studied by incubating them with cystine di-Me ester. Proline uptake into brush border membrane vesicles isolated from the cystine-loaded cells was not different from that observed into brush border vesicles isolated from tubules incubated in buffer alone. Incubating brush border membranes with 2 mM cystine di-Me ester for 10 min reduced the uptake of proline by 27% after 15 s of incubation and by 21% after 60 s of incubation. There was no effect after 20 min of incubation. Preincubating brush border membrane vesicles with cystine di-Me ester had no statistically significant effect on the affinity of proline for the carrier, but did reduce the maximal rate of proline uptake by 49%.

IT 1069-29-0
 RL: BIOL (Biological study)
 (proline transport by kidney brush border response to loading with)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 119 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1991:62689 CAPLUS

DOCUMENT NUMBER: 114:62689

ORIGINAL REFERENCE NO.: 114:10771a,10774a

TITLE: Conversion of N-terminal cysteine to thiazolidine carboxylic acid during hydrogen fluoride deprotection of peptides containing N π -Bom protected histidine

AUTHOR(S): Gesquiere, Jean Claude; Diesis, Eric; Tartar, Andre

CORPORATE SOURCE: Inst. Pasteur, Fac. Pharm., Lille, 59019, Fr.

SOURCE: Journal of the Chemical Society, Chemical

Communications (1990), (20), 1402-3

CODEN: JCCCAT; ISSN: 0022-4936

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Formaldehyde released during HF deprotection of peptides containing a histidine residue protected by the N π -benzyloxymethyl (Bom) group induces cyclization of N-terminal cysteine residues to thiazolidinecarboxylic acids.

IT 131674-61-8P

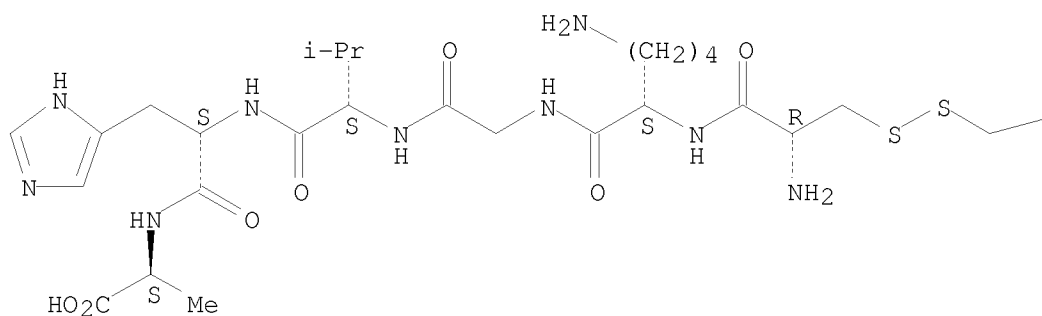
RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)

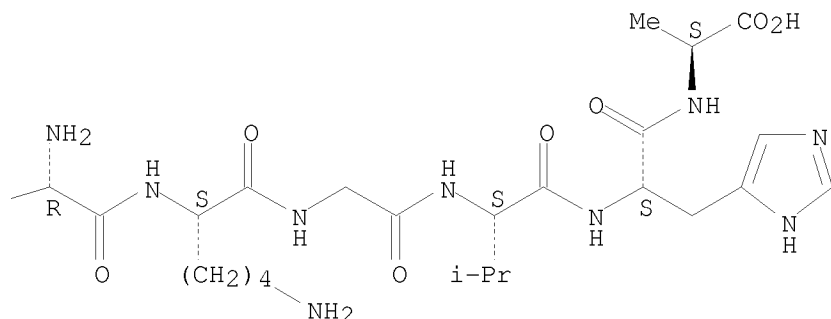
RN 131674-61-8 CAPLUS

CN L-Alanine, L-cysteinyl-L-lysylglycyl-L-valyl-L-histidyl-, bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A





L5 ANSWER 120 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1991:62685 CAPLUS

DOCUMENT NUMBER: 114:62685

ORIGINAL REFERENCE NO.: 114:10771a,10774a

TITLE: Solution phase synthesis of *Saccharomyces cerevisiae* a-mating factor and its analogs

AUTHOR(S): Xue, Chu Biao; Ewenson, Ariel; Becker, Jeffrey M.; Naider, Fred

CORPORATE SOURCE: Coll. Staten Island, City Univ. New York, Staten Island, NY, 10301, USA

SOURCE: International Journal of Peptide & Protein Research (1990), 36(4), 362-73

CODEN: IJPPC3; ISSN: 0367-8377

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 114:62685

AB The title mating factor, H-Tyr-Ile-Ile-Lys-Gly-Val-Phe-Trp-Asp-Pro-Ala-Cys(R)-OR1 [I; R = farnesyl (Far), R1 = Me], was prepared by solution methods. The above synthesis involved 5+5 and 10+2 fragment condensations mediated by BOP reagent. Analogs I (R = H, R1 = Me; R = Far, R1 = H) were also prepared. The synthetic nonfarnesylated and nonmethylated a-mating pheromones were 100-1000 times less active than the a-factor, indicating that although the Me ester and the farnesyl group are not essential for biol. activity, they are necessary for high potency.

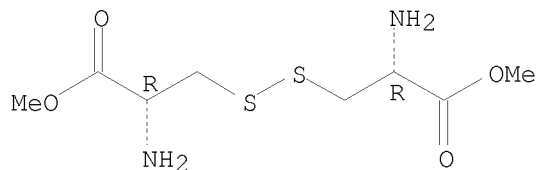
IT 32854-09-4

RL: RCT (Reactant); RACT (Reactant or reagent)
(peptide coupling of, with alanine derivative)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 121 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

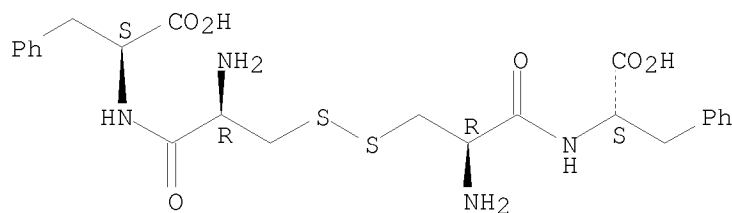
ACCESSION NUMBER: 1991:38583 CAPLUS

DOCUMENT NUMBER: 114:38583
 ORIGINAL REFERENCE NO.: 114:6655a,6658a
 TITLE: Immobilized metal ion affinity chromatography: effect of solute structure, ligand density and salt concentration on the retention of peptides
 AUTHOR(S): Belew, Makonnen; Porath, Jerker
 CORPORATE SOURCE: Inst. Biochem., Uppsala Univ., Uppsala, S-751 23, Swed.
 SOURCE: Journal of Chromatography (1990), 516(2), 333-54
 CODEN: JOCRAM; ISSN: 0021-9673
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The adsorption characteristics of a variety of synthetic peptide hormones and di-, tri-, and tetrapeptides on Cu(II) immobilized on two com. available high-performance chelating gels run under various exptl. conditions are described. Methods for determining the concentration of immobilized Cu(II) in situ are also described. The Cu(II)-charged columns exhibit a net neg. charge as judged from the significantly higher retention of some basic peptides in the absence of NaCl in the equilibration and elution buffers. At higher NaCl concns. (2-4M), aromatic interactions seem to be superimposed on the metal ion affinity characteristics of the peptides. The relationship between resolution of peptides and the concentration of immobilized Cu(II) ions has also been established for the Chelating Superose gel where 40 μ mol Cu(II)/mL gel apparently gives the optimum resolution. The nature of the gel matrix also plays a role in the resolution of some peptides, the extent of which is difficult to predict. The results obtained also suggest that peptides containing aromatic and hydroxy amino acids are retarded more than those which lack them. Moreover, these same amino acids apparently strengthen the existing strong binding of peptides containing His, Trp, or Cys to a Chelating Superose-Cu(II) column. Dipeptides with C-terminal His (i.e., X-His) are neither bound nor retarded on a column of Chelating Superose-Cu(II) whereas those having the structure His-X are strongly bound. Some tri- and tetrapeptides containing His were also found not to bind to the column. The underlying cause of this anomalous adsorption behavior is discussed and is ascribed to metal ion transfer arising from the relatively higher affinity of such peptides towards immobilized Cu(II) ions than the chelator groups (iminodiacetate) which covalently bound to the gel matrix.

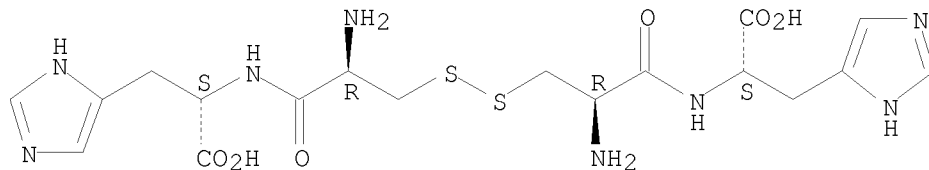
IT 62130-80-7 131303-26-9
 RL: ANT (Analyte); ANST (Analytical study)
 (chromatog. of, immobilized metal ion affinity)
 RN 62130-80-7 CAPLUS
 CN L-Phenylalanine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 131303-26-9 CAPLUS
 CN L-Histidine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 122 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1991:7202 CAPLUS

DOCUMENT NUMBER: 114:7202

ORIGINAL REFERENCE NO.: 114:1423a,1426a

TITLE: Conformational properties of the amino acid residues
L-cysteine, L-serine and L-cystine

AUTHOR(S): Goerbitz, C. H.

CORPORATE SOURCE: Dep. Chem., Univ. Oslo, Oslo, N-0315, Norway

SOURCE: Acta Chemica Scandinavica (1990), 44(6), 584-90

CODEN: ACHSE7; ISSN: 0904-213X

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The correlation between torsion angles of the main chain and the orientation of the side chain in the solid phase has been investigated for L-cysteine, L-serine and L-cystine. Information has been obtained from the Cambridge Structural Database. In the crystal structures of cysteine and serine the torsion angle N-C α -C'-N (ψ) is often close to 0 or 180°. When this is the case, N-C α -C β -O γ /S γ (χ 1) is almost exclusively in the vicinity of 60° (g+). When ψ is in the interval 30-150°, only trans (t) or gauche- (g-) is observed. Thus, χ 1 is strongly dependent on the conformation of the main chain for these residues. Force-field energy calcns. agree reasonably well with the exptl. results. For L-cystine, g- is more frequently observed than g+ at χ 1. χ 2 And χ 3 (disulfide bond) are both around \pm 85°. The sign sequences for the five torsion angles along the disulfide bridge (χ 1, χ 2, χ 3, χ 2', χ 1') are: cyclic peptides, --+-- or other; non-cyclic with twofold axis, +---+ or +++++; other non-cyclic, ----- or +++++.

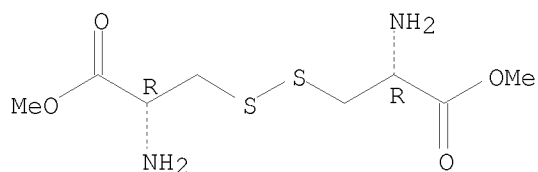
IT 55426-76-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(torsion angles in disulfide bridge in)

RN 55426-76-1 CAPLUS

CN L-Cystine, dimethyl ester, dihydrochloride, monohydrate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

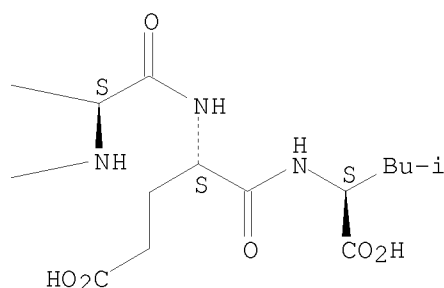
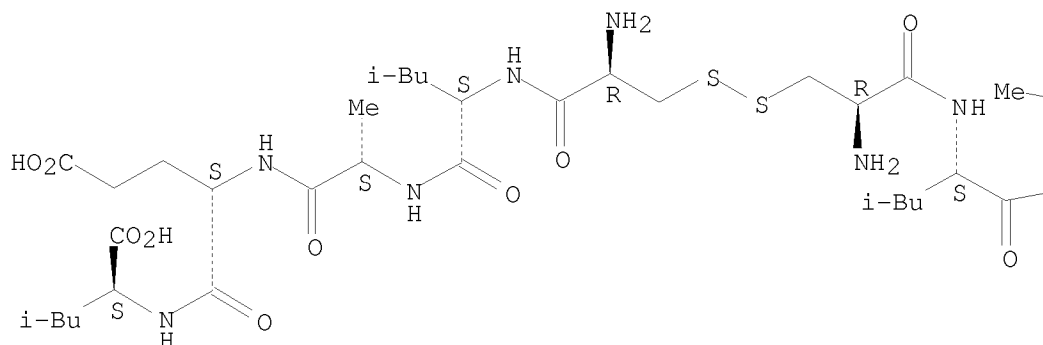
● H₂O

L5 ANSWER 123 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1991:7195 CAPLUS
 DOCUMENT NUMBER: 114:7195
 ORIGINAL REFERENCE NO.: 114:1419a,1422a
 TITLE: Synthesis of bis-pentapeptide
 (H-Cys-Leu-Ala-Glu-Leu-OH)₂ which stimulates the acid
 formation of Lactobacillus casei var. casei
 AUTHOR(S): Vezenkov, L.; Mladenova-Orlinova, L.
 CORPORATE SOURCE: Dep. Org. Chem., Higher Inst. Chem. Technol., Sofia,
 1156, Bulg.
 SOURCE: Doklady Bolgarskoi Akademii Nauk (1990), 43(2), 33-5
 CODEN: DBANAD; ISSN: 0366-8681
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 114:7195
 GI

H-Cys-Leu-Ala-Glu-Leu-OH
 |
 H-Cys-Leu-Ala-Glu-Leu-OH I

AB The title peptide I was prepared from PhCH₂O₂C-Cys(CH₂Ph)-Leu-Ala-Glu-Leu-OH
 (II) by hydrogenolysis, followed by oxidation with O₂. II was prepared by
 conventional solution methods.
 IT 115784-25-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 115784-25-3 CAPLUS
 CN L-Leucine, L-cysteinyl-L-leucyl-L-alanyl-L- α -glutamyl-, bimol.
 (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 124 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1990:591849 CAPLUS
 DOCUMENT NUMBER: 113:191849
 ORIGINAL REFERENCE NO.: 113:32497a,32500a
 TITLE: Isosteric oligonucleotide analogs containing sulfur
 INVENTOR(S): Benner, Steven Albert
 PATENT ASSIGNEE(S): Switz.
 SOURCE: PCT Int. Appl., 88 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 8912060	A1	19891214	WO 1989-US2323	19890526
W: AU, JP				
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
US 5216141	A	19930601	US 1988-202528	19880606
AU 8937654	A	19900105	AU 1989-37654	19890526
AU 635209	B2	19930318		
EP 418309	A1	19910327	EP 1989-906936	19890526
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
JP 03505452	T	19911128	JP 1989-506581	19890526
PRIORITY APPLN. INFO.:			US 1988-202528	A 19880606
			WO 1989-US2323	A 19890526

GI

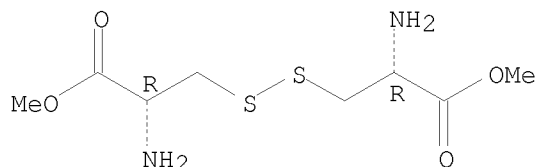
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Oligonucleotides containing isosteric S linkages instead of a phosphate, e.g. I, which are resistant to chemical and in vivo enzymic degradation, lipophilic, and thereby easily cross biol. barriers, and thus useful as, e.g. probes for cDNA, can be prepared from rigid or flexible isosteric building blocks [II, III, and IV; X = O, CH₂; R = OH, R₁ = SH; or R = SH, R₁ = OH; B = heterocycle ring selected from (aza)pyrimidine, (aza)purine, pyrrolopyrimidine, pyrazolopyrimidine, triazolopyrimidine, imidazolopyrimidine, pyrrolopyridine, pyrazolopyridine, and triazolopyridine, which may be functionalized with NH₂, HO, halo, acylamino, or acylhydroxy]. Thus, ozonolysis of 2-(pivaloyloxymethyl)cyclohex-4-enol (V; R₃ = pivaloyl) (preparation given) in MeOH and treatment of the resulting 3,4-trans-1-methoxy-3-pivaloyloxymethyl-4-(2'-hydroxyethyl)tetrahydrofuran with Dowex W50 in refluxing PhMe gave a 2,8-dioxo[1.2.3]bicyclooctane (VI) which was stirred 15 h at room temperature with bis(trimethylsilyloxy)pyrimidine in the presence of CF₃SO₃SiMe₃ in MeCN to give II (X = O, R = OH, R₁ = pivaloyloxy, B = 1-uracilyl). Reaction of the latter with EtO₂CN:NCO₂Et, Ph₃P, and AcSH in THF gave II (X = O, R = SAc, R₁ = pivaloyloxy, B = 1-uracilyl) which could be conveniently stored and deprotected immediately prior to condensation, by reduction with LiEt₃H (super-hydride) in THF to give a bishomonucleoside II (X = O, R = SH, R₁ = OH, B = 1-uracilyl). No synthetic examples for I or other oligonucleotides but only synthetic schemes were given. I bind to complementary A-C-C-T-C-C-T (no data).

IT 22888-38-6, L-Cystine dimethyl ester hydrochloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclocondensation of, with methylacryloyl isocyanate, pyrimidine derivative from)

RN 22888-38-6 CAPLUS
CN L-Cystine, dimethyl ester, hydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● x HCl

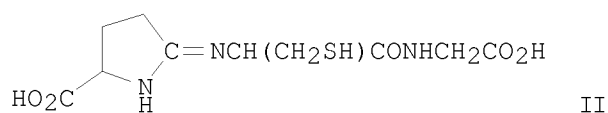
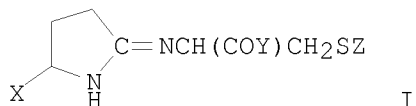
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 125 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1990:572762 CAPLUS
DOCUMENT NUMBER: 113:172762
ORIGINAL REFERENCE NO.: 113:29320h,29321a
TITLE: Preparation of cyclic amidine derivatives of glutathione and analogs as drugs
INVENTOR(S): Fujii, Katsuhiko
PATENT ASSIGNEE(S): Teijin Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02121965	A	19900509	JP 1988-272904	19881031
JP 07045465	B	19950517		
PRIORITY APPLN. INFO.:			JP 1988-272904	19881031
OTHER SOURCE(S):	CASREACT 113:172762; MARPAT 113:172762			

GI



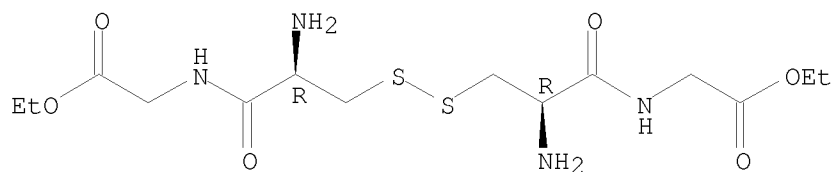
AB The title compds. I [X = CO₂H, R₁, CO₂R₁; R₁ = (substituted) hydrocarbyl; Y = OH, OR₁, A, etc.; A = amino acid residue; Z = H, R₁, COR₁, etc.] were prepared Treatment of glutathione with HCl, followed by treatment of the resulting salt with NaHCO₃, gave pyrrolidine II.

IT 33642-58-9P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction of, in preparation of drug)

RN 33642-58-9 CAPLUS

CN Glycine, L-cysteinyl-, ethyl ester, bimol. (1→1')-disulfide (9CI)
 (CA INDEX NAME)

Absolute stereochemistry.



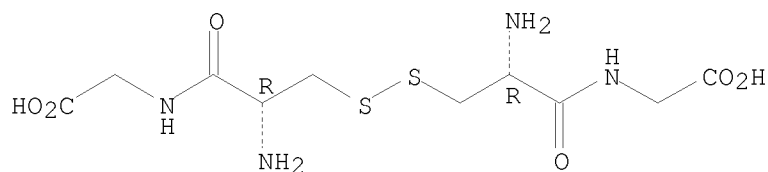
IT 7729-20-6

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, in preparation of drug)

RN 7729-20-6 CAPLUS

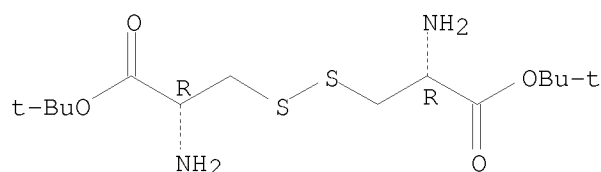
CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 126 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1990:498023 CAPLUS
 DOCUMENT NUMBER: 113:98023
 ORIGINAL REFERENCE NO.: 113:16577a,16580a
 TITLE: Synthesis of biologically active pentapeptide analogs of the N-terminal part of lipoprotein from the outer membrane of Escherichia coli
 AUTHOR(S): Kurimura, Muneaki; Takemoto, Masumi; Achiwa, Kazuo
 CORPORATE SOURCE: Sch. Pharm. Sci., Univ. Shizuoka, Shizuoka, 422, Japan
 SOURCE: Chemical & Pharmaceutical Bulletin (1990), 38(4), 1110-12
 CODEN: CPBTAL; ISSN: 0009-2363
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 113:98023
 AB Newly synthesized lipopentapeptide derivs. with (R)-glycerol moieties showed higher mitogenic activities than those with the (S)-configuration.
 IT 62574-13-4P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction of)
 RN 62574-13-4 CAPLUS
 CN L-Cystine, 1,1'-bis(1,1-dimethylethyl) ester (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

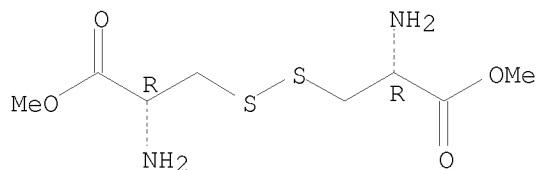


L5 ANSWER 127 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1990:495188 CAPLUS
 DOCUMENT NUMBER: 113:95188
 ORIGINAL REFERENCE NO.: 113:16011a,16014a
 TITLE: Characterization of the lysosomal cystine transport system in mouse L-929 fibroblasts
 AUTHOR(S): Greene, Alice A.; Marcusson, Eric G.; Morell, Guillem Pintos; Schneider, Jerry A.
 CORPORATE SOURCE: Dep. Pediatr., Univ. California, San Diego, La Jolla, CA, 92093, USA
 SOURCE: Journal of Biological Chemistry (1990), 265(17), 9888-95
 CODEN: JBCHA3; ISSN: 0021-9258
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB A lysosomal cystine transporter in mouse L-929 fibroblasts was characterized. Granular fractions from cells preloaded with cystine demonstrated counter transport that showed no dependence on Na⁺ or K⁺. The Michaelis constant for infinite-trans influx was 0.27 mM, and a nonsaturable component of cystine entry was observed with dissociation constant = 0.8-1.8 nmol of cystine/min/unit of hexosaminidase/mM. No evidence was found that cystine was also carried on any of the other known lysosomal amino acid transporters. Over 50 analogs were tested for their ability to inhibit countertransport. The inhibition consts. are reported for selenocystine, cystathionine, selenomethionine, and leucine. Significant requirements for recognition by the transporter were the presence of amino

groups, L configuration, and a chain length ≤ 8 atoms. A net pos. or neg. charge was not required. Some di- as well as tetrapolar amino acids were recognized. The binding site has polar and apolar domains, the latter being large enough to accommodate branching on C-3 and the substitution of Se or carbon in place of S.

IT 1069-29-0, L-Cystine dimethyl ester
 RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
 (counter-transport of, by lysosome, cystine in relation to)
 RN 1069-29-0 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



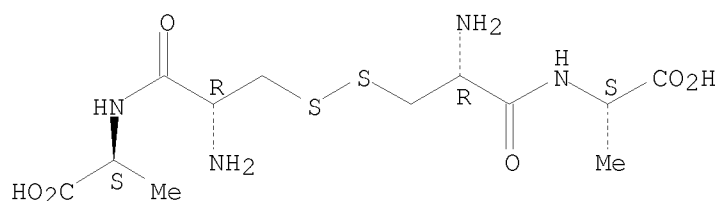
L5 ANSWER 128 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1990:465278 CAPLUS
 DOCUMENT NUMBER: 113:65278
 ORIGINAL REFERENCE NO.: 113:10915a,10918a
 TITLE: Peptide-containing intravenous nutrients
 INVENTOR(S): Kosegi, Koji; Tsukamoto, Zenji; Yaginuma, Hideya; Sato, Makoto
 PATENT ASSIGNEE(S): Morishita Pharmaceutical Co., Ltd., Japan; Ajinomoto Co., Inc.
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02023849	A	19900126	JP 1988-142515	19880608
PRIORITY APPLN. INFO.:			JP 1988-142515	19880608

AB An i.v. nutrient composition contains essential amino acids, nonessential amino acids, and di- and/or tripeptides having C terminal glycine or L-alanine residues. The peptides, which are metabolized in the body, have higher solubility in H₂O than amino acids, thus the compns. need less amount of H₂O. The nutrients are stable and have suitable osmotic pressure. An i.v. nutrient solution (1 L, pH 6.0-6.5) was prepared from 2.9 g Tyr-Gly and 17 amino acids.

IT 20898-21-9
 RL: BIOL (Biological study)
 (i.v. nutrients containing, stable)
 RN 20898-21-9 CAPLUS
 CN L-Alanine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 129 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1990:430093 CAPLUS

DOCUMENT NUMBER: 113:30093

ORIGINAL REFERENCE NO.: 113:5071a,5074a

TITLE: Cadmium ion interaction with sulfur containing amino acid and peptide ligands

AUTHOR(S): Kozlowski, H.; Urbanska, J.; Sovago, I.; Varnagy, K.; Kiss, A.; Spychala, J.; Cherifi, K.

CORPORATE SOURCE: Inst. Chem., Univ. Wroclaw, Wroclaw, 50-383, Pol.

SOURCE: Polyhedron (1990), 9(6), 831-7

CODEN: PLYHDE; ISSN: 0277-5387

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Cadmium complexes with 15 ligands containing S donors in various environments were studied by potentiometric and polarog. methods. Thiol donors were the most effective in Cd binding in the order of (S,N,O) > (S,N) > (S,O,O) > (S,O) donor sets. Thioamide groups also enhance the stability of the complexes formed, while the disulfide group is ineffective in the presence of amino acid or peptide binding sites.

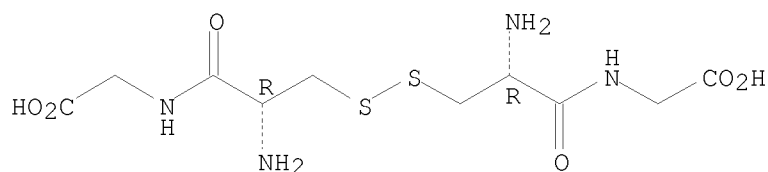
IT 7729-20-6

RL: RCT (Reactant); RACT (Reactant or reagent)
(protonation of)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



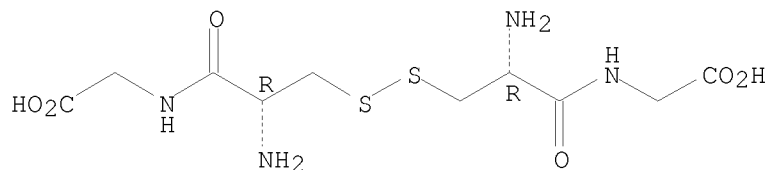
IT 7729-20-6D, cadmium complexes

RL: PRP (Properties)
(stability consts. of)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 130 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1990:420256 CAPLUS
 DOCUMENT NUMBER: 113:20256
 ORIGINAL REFERENCE NO.: 113:3437a,3440a
 TITLE: Electron transfer reactions of metalloproteins at peptide-modified gold electrodes
 AUTHOR(S): Barker, Paul D.; Di Gleria, Kati; Hill, H. Allen O.; Lowe, Valerie J.
 CORPORATE SOURCE: Inorg. Chem. Lab., Oxford, OX1 3QR, UK
 SOURCE: European Journal of Biochemistry (1990), 190(1), 171-5
 CODEN: EJBCAI; ISSN: 0014-2956
 DOCUMENT TYPE: Journal
 LANGUAGE: English

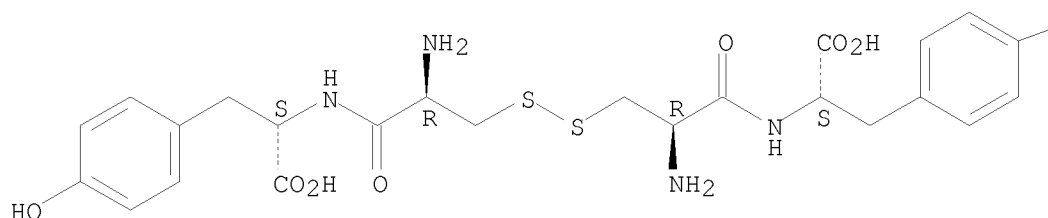
AB The electron transfer reactions of 4 small redox proteins, cytochrome c, ferredoxin, plastocyanin, and azurin, have been investigated at novel peptide-modified gold electrodes. These proved to be effective and selective in facilitating electron transfer. Good, quasi-reversible electron transfer was achieved selectively at different peptide-protein configurations by changing the pH or the ionic strength of the solution. The use of peptides as promoters for protein electrochem. opens up the possibility of designing very specific electrode surfaces for larger mols. like enzymes.

IT 7369-94-0 7729-20-6 62130-80-7
 125950-97-2 127633-68-5
 RL: ANST (Analytical study)
 (electrode modification by, for redox protein electron transfer reactions)

RN 7369-94-0 CAPLUS
 CN L-Tyrosine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

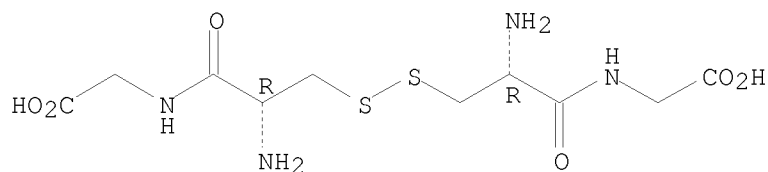


PAGE 1-B

—OH

RN 7729-20-6 CAPLUS
 CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

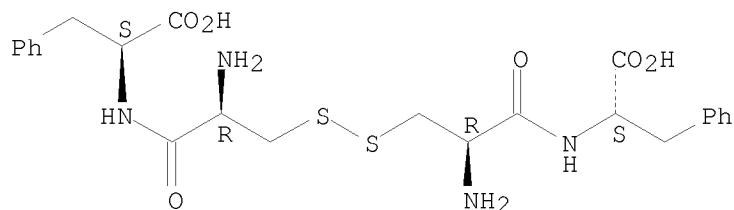
Absolute stereochemistry.



RN 62130-80-7 CAPLUS

CN L-Phenylalanine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

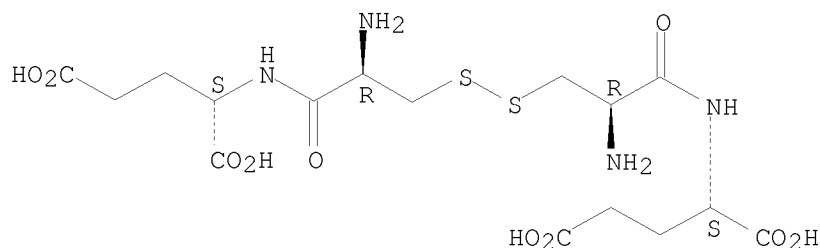
Absolute stereochemistry.



RN 125950-97-2 CAPLUS

CN L-Glutamic acid, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

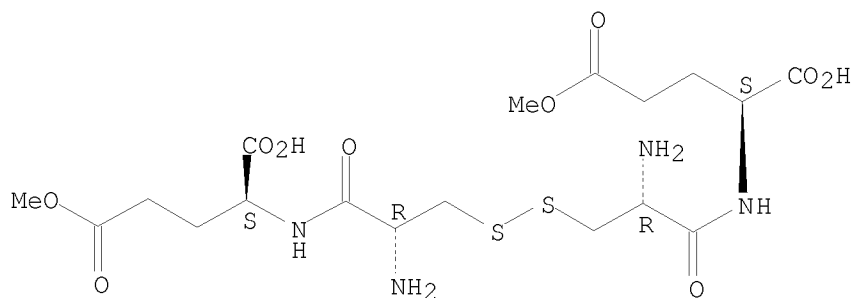
Absolute stereochemistry.



RN 127633-68-5 CAPLUS

CN L-Glutamic acid, L-cysteinyl-, 25-methyl ester, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 131 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1990:194665 CAPLUS

DOCUMENT NUMBER: 112:194665

ORIGINAL REFERENCE NO.: 112:32825a, 32828a

TITLE: Analysis of disulfide-linked homo- and hetero-peptide dimers with a strong cation-exchange sulfoethyl aspartamide column

AUTHOR(S): Crimmins, Dan L.

CORPORATE SOURCE: Howard Hughes Med. Inst., Washington Univ., St. Louis, MO, USA

SOURCE: Peptide Research (1989), 2(6), 395-401

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A strong cation-exchange sulfoethyl aspartamide column was used to analyze and purify disulfide-linked homo-/heteropeptide dimers. Monomeric peptides elute from this column in a monotonic pos. charge at pH 3.0. Disulfide-linked peptide dimers are expected to possess an increased net pos. charge at pH 3.0 and therefore should elute later and be well resolved from their monomeric constituents. Five distinct synthetic peptides (7-14 residues in length) ranging in net nominal charge at pH 3.0 from +1 to +4, with cysteine located at the N terminus, C terminus, or at an internal position, were used to produce disulfide-linked homo-/heteropeptide dimers as follows: The peptide was first reacted with 5,5'-dithiobis (2-nitrobenzoic acid) to form the mixed-disulfide, peptide-:2-nitro-5-thiobenzoic acid adduct which is easily monitored at 325 nm. Then, the second cysteine-containing peptide was added and the desired disulfide-linked homo-/heteropeptide dimer was produced via a thiol-disulfide interchange reaction. The entire reaction mixture was subsequently chromatographed on the sulfoethyl aspartamide column to isolate the disulfide-bonded species and also, to identify other reaction products. In addition, the same reaction mixture was analyzed by standard C18 reverse-phase chromatog. to compare the capabilities of these two distinct chromatog. modes to SS-linked homo-/hetero- peptide dimers. Each chromatog. system successfully resolved all 5 homopeptide dimers from their resp. monomer counterparts, with separation being slightly better on the sulfoethyl aspartamide column. In contrast, all 6 of the various disulfide-linked hetero-peptide dimers are more readily distinguished from their resp. monomer constituents by sulfoethyl aspartamide chromatog. than by C18 reverse-phase chromatog.

IT 126667-00-3

RL: PROC (Process)

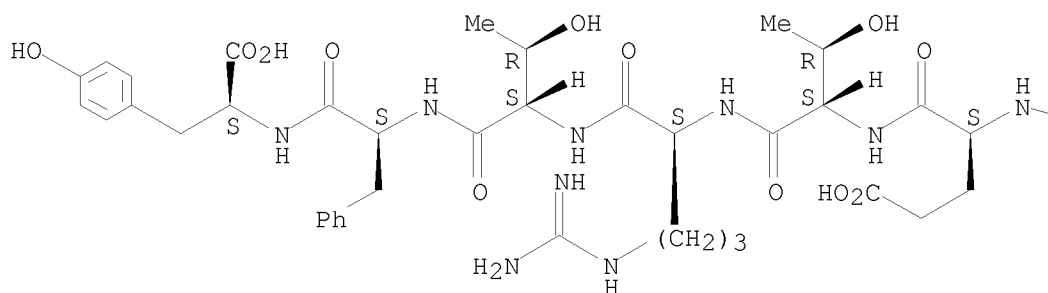
(separation of, from disulfide-linked hetero-peptide dimers)

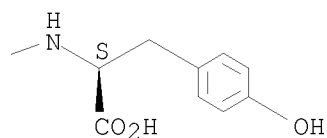
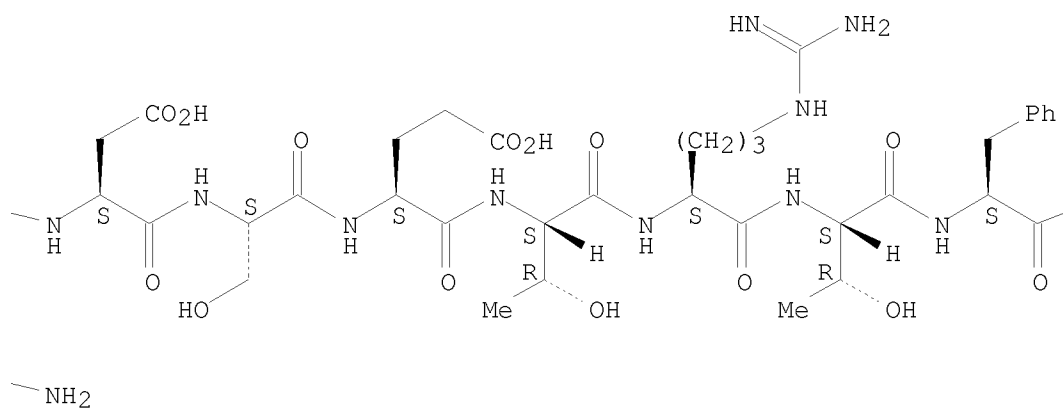
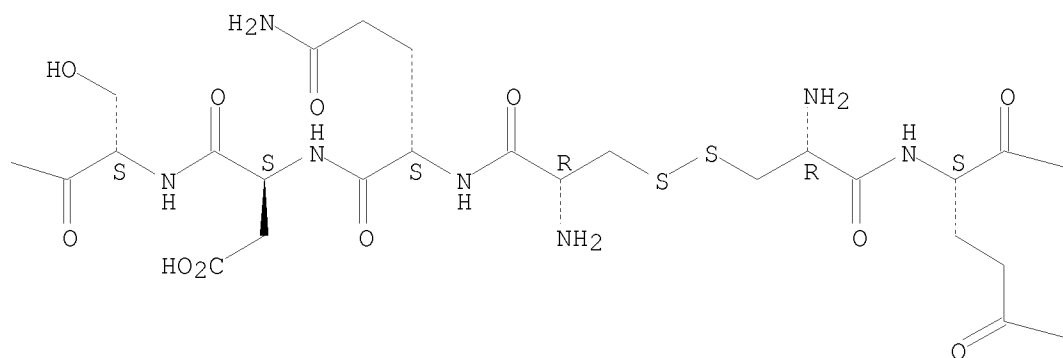
RN 126667-00-3 CAPLUS

CN L-Tyrosine, L-cysteinyl-L-glutaminyl-L- α -aspartyl-L-seryl-L- α -glutamyl-L-threonyl-L-arginyl-L-threonyl-L-phenylalanyl-, bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A





L5 ANSWER 132 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1990:153910 CAPLUS
 DOCUMENT NUMBER: 112:153910
 ORIGINAL REFERENCE NO.: 112:25899a, 25902a
 TITLE: Direct electrochemistry of protein-protein complexes
 involving cytochrome c, cytochrome b5, and
 plastocyanin

AUTHOR(S): Bagby, Stefan; Barker, Paul D.; Guo, Liang Hong; Hill, H. Allen O.

CORPORATE SOURCE: Inorg. Chem. Lab., Univ. Oxford, Oxford, OX1 3QR, UK

SOURCE: Biochemistry (1990), 29(13), 3213-19
CODEN: BICHAW; ISSN: 0006-2960

DOCUMENT TYPE: Journal

LANGUAGE: English

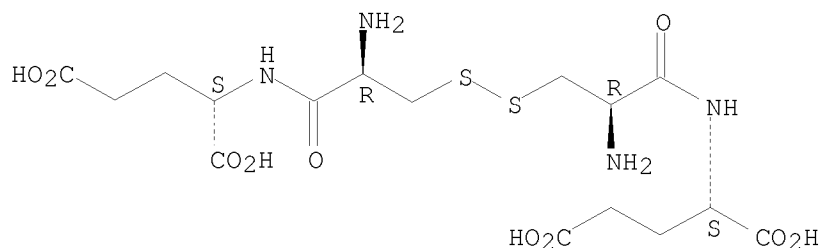
AB The direct electrochem. of the cytochrome c/cytochrome b5 and cytochrome c/plastocyanin complexes has been investigated at edge-plane graphite and modified an electrode surfaces, which are selective for one of the two components of the complex. Electrochem. response of one protein at an otherwise electrostatically unfavorable electrode surface was achieved in the presence of the other protein, and the calculated heterogeneous electron-transfer rate constant and diffusion coefficient were found to be in good agreement with the values determined previously from the electrochem. of the individual proteins (Armstrong, F. A., et al., 1988). A dynamic model of the protein-protein-electrode ternary complex is proposed to explain the promotion effect, and this model is supported by a study comparing the electrochem. responses of covalent and electrostatic cytochrome c/plastocyanin complexes. It is also suggested that the behavior of protein-protein complexes at electrode surfaces could be related to that of the complexes associated with biol. membranes.

IT 125950-97-2D, gold complexes
RL: BIOL (Biological study)
(electrode, cytochrome c complexes with cytochrome b5 and plastocyanin electron transfer reactions at)

RN 125950-97-2 CAPLUS

CN L-Glutamic acid, L-cysteinyl-, bimol. (1-1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 133 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1990:136873 CAPLUS

DOCUMENT NUMBER: 112:136873

ORIGINAL REFERENCE NO.: 112:23117a,23120a

TITLE: Intracellular cystine loading inhibits transport in the rabbit proximal convoluted tubule

AUTHOR(S): Salmon, Richard F.; Baum, Michel

CORPORATE SOURCE: Southwest. Med. Cent., Univ. Texas, Dallas, TX, 75235, USA

SOURCE: Journal of Clinical Investigation (1990), 85(2), 340-4
CODEN: JCINAO; ISSN: 0021-9738

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Cystinosis is an autosomal recessive disorder characterized by high intracellular cystine concns. To establish an in vitro model of this disorder and examine the mechanism of the proximal tubule transport defect seen with elevated intracellular cystine concns., rabbit proximal convoluted tubules (PCT) were perfused in vitro. PCTs were loaded with cystine using cystine di-Me ester, a permeative derivative Cystine di-Me

ester bath (0.5 mM) reduced volume absorption Jv from 0.67 to 0.15 nL/mm.min, bicarbonate transport JTCO2 from 47.2 to 11.1 pmol/mm.min, and glucose transport JGLU from 34.1 to 19.7 pmol/mm.min. Me esters of leucine (0.5 mM) and tryptophan (0.5 and 2.0 mM) had no effect on these parameters. To examine if intracellular reduction of cystine to cysteine could contribute to the inhibition in transport, the effect of cysteine Me ester bath on proximal tubular transport was examined. Cysteine Me ester at 2, but not 0.5 mM, inhibited Jv, JGLU, and JTCO2. Cystine di-Me ester had no effect on mannitol or bicarbonate permeability. These data are consistent with intracellular proximal tubular cystine accumulation resulting in an inhibition of active transport.

IT 1069-29-0, Cystine dimethyl ester

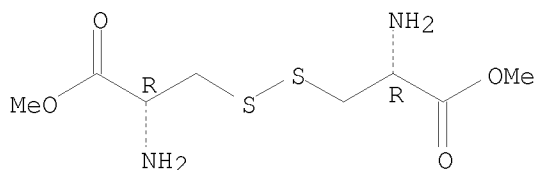
RL: BIOL (Biological study)

(kidney tubule transport of bicarbonate and glucose response to, cystinosis in relation to)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 134 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1990:119641 CAPLUS

DOCUMENT NUMBER: 112:119641

ORIGINAL REFERENCE NO.: 112:20289a,20292a

TITLE: Preparation of citric acid-diamine copolymers as carriers for pharmaceuticals

INVENTOR(S): Boustta, Mamfoud; Huguet, Jovanka; Vert, Michel

PATENT ASSIGNEE(S): SANOFI, Fr.

SOURCE: Eur. Pat. Appl., 13 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 332530	A1	19890913	EP 1989-400635	19890307
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
FR 2628432	A1	19890915	FR 1988-2956	19880308
FR 2628432	B1	19901221		
US 5026821	A	19910625	US 1989-318032	19890302
JP 02022327	A	19900125	JP 1989-54831	19890307
PRIORITY APPLN. INFO.:			FR 1988-2956	A 19880308

AB The title polymers, biodegradable and useful also as sutures, prostheses, etc., are prepared by polymerizing citric acid via the 2 terminal CO2H groups with aliphatic diamines, optionally bearing OH or CO2H groups. Adding 4.54 g benzal of citric acid dichloride (5-oxo-2-phenyl-1,3-dioxane-4,4-diacetyl chloride) in 40 mL C6H4 and 8.2 g Na2CO3 in 20 mL H2O (90% of each solution within 6 min) to 7.6 g N,N'-di-p-toluenesulfonyllysine benzyl ester, 7.45 g Na2CO3, 0.5 g Cl2H25OSO3Na, and 60 mL 66:33 H2O-C6H6 with strong stirring, stirring 2 min, and heating to 45-50° gave 5.1 g polyamide with mol. weight 24,000.

IT 125690-83-7DP, saponified 125690-83-7P

RL: PREP (Preparation)

(preparation of)

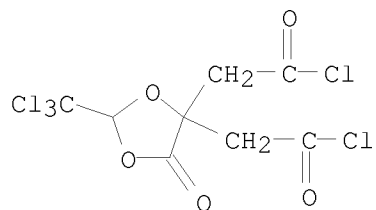
RN 125690-83-7 CAPLUS

CN L-Cystine, bis(phenylmethyl) ester, 4-methylbenzenesulfonate (1:2),
polymer with 5-oxo-2-(trichloromethyl)-1,3-dioxolane-4,4-diacetyl
dichloride (9CI) (CA INDEX NAME)

CM 1

CRN 125033-82-1

CMF C8 H5 Cl5 O5



CM 2

CRN 85006-27-5

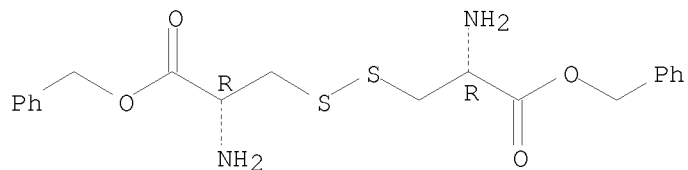
CMF C20 H24 N2 O4 S2 . 2 C7 H8 O3 S

CM 3

CRN 85006-26-4

CMF C20 H24 N2 O4 S2

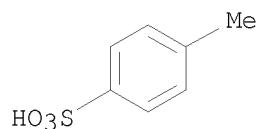
Absolute stereochemistry.



CM 4

CRN 104-15-4

CMF C7 H8 O3 S

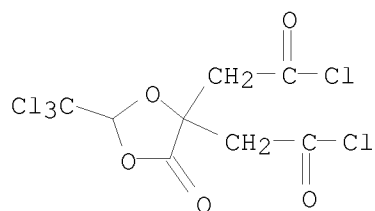


RN 125690-83-7 CAPLUS

CN L-Cystine, bis(phenylmethyl) ester, 4-methylbenzenesulfonate (1:2),
polymer with 5-oxo-2-(trichloromethyl)-1,3-dioxolane-4,4-diacetyl
dichloride (9CI) (CA INDEX NAME)

CM 1

CRN 125033-82-1
CMF C8 H5 Cl5 O5



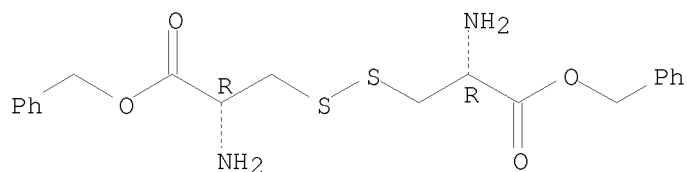
CM 2

CRN 85006-27-5
CMF C20 H24 N2 O4 S2 . 2 C7 H8 O3 S

CM 3

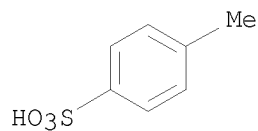
CRN 85006-26-4
CMF C20 H24 N2 O4 S2

Absolute stereochemistry.



CM 4

CRN 104-15-4
CMF C7 H8 O3 S



L5 ANSWER 135 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1990:99204 CAPLUS
DOCUMENT NUMBER: 112:99204
ORIGINAL REFERENCE NO.: 112:16895a,16898a
TITLE: Reactivity of sodium nitrite. V. Action on amino acids, peptides, and proteins
AUTHOR(S): Gouesnard, Jean Paul
CORPORATE SOURCE: Lab. RMN React. Chim., Nantes, 44072, Fr.
SOURCE: Bulletin de la Societe Chimique de France (1989), (1), 88-94
CODEN: BSCFAS; ISSN: 0037-8968

DOCUMENT TYPE: Journal
LANGUAGE: French
OTHER SOURCE(S): CASREACT 112:99204

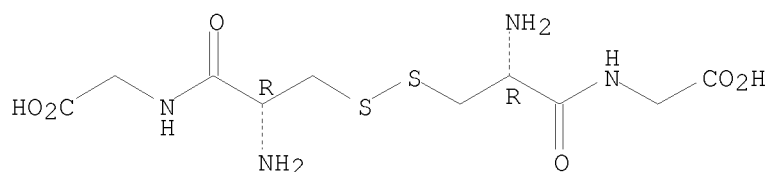
AB The action of NaNO₂ on various amino acids was reexamd. under conditions approximating a biol. medium. ¹³C NMR provides evidence for intramol. ring closure and formation of 5-membered rings with ornithine, citrulline, and arginine. Cystine undergoes S-S bond cleavage and cysteine forms carboxythiirane and 3-sulfolactic acid. The hydrolysis of the amide bonds of asparagine and glutamine is complete, whereas the peptides studied (carnosine and aspartam) do not undergo hydrolysis of the peptide linkage. However, the first deamination of glutathione (γ-Glu-Cys-Gly) induces peptide bond cleavage and lactonization. A second deamination takes place on the cysteinyl residue released and allows the formation of a thiirane by intramol. cyclization with the thiol group. The formation of thiirane was also observed with oxidized glutathione which has an S-S bridge. Finally, the formation of nitrosamines was detected by ¹⁵N NMR during the reaction of sodium nitrite with two com. products.

IT 7729-20-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 136 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1990:803 CAPLUS

DOCUMENT NUMBER: 112:803

ORIGINAL REFERENCE NO.: 112:151a,154a

TITLE: A synthetic linear decapeptide binds to the atrial natriuretic peptide receptors and demonstrates cyclase activation and vasorelaxant activity

AUTHOR(S): Bovy, Philippe R.; O'Neal, Joan M.; Olins, Gillian M.; Patton, Dennis R.; Mehta, Pramod P.; McMahon, Ellen F.; Palomo, Maria; Schuh, Joe; Blehm, Delores

CORPORATE SOURCE: Monsanto Life Sci. Res. Cent., G. D. Searle and Co., Chesterfield, MO, 63198, USA

SOURCE: Journal of Biological Chemistry (1989), 264(34), 20309-13

CODEN: JBCHA3; ISSN: 0021-9258

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A linear decapeptide, [cyclohexylalanine₁₀₆]ANP-(105-114)NH₂ (I), where ANP is atrial natriuretic peptide, was prepared by solid phase synthesis and purified by reverse-phase liquid chromatog. This novel peptide bound to ANP receptors in rabbit lung membranes, stimulated cGMP production in various tissues, and fully relaxed precontracted rabbit aorta in a dose-dependent fashion. The potency of I in the various in vitro assays varies between 1/20 and 1/80th of the potency of the reference peptide, rat ANP-(103-126). I, which encompasses amino acid residues from the rat ANP sequence (105-114), features a cyclohexylalanine residue instead of the phenylalanine 106 residue in the hormone sequence, a free sulfhydryl function at the N-terminal cysteine 105, and a carboxamide C terminus. Its disulfide dimer was active in the rabbit aorta assay, whereas the S-Me cysteine

analog was not active in the same assay at similar concns. I is of particular significance because it is the shortest analog reported to date endowed with agonist activity at the guanylate cyclase-coupled ANP receptor. In particular, it is interesting to compare its structure to the structures of other short linear analog of ANP which are totally devoid of the ability to stimulate particulate guanylate cyclase activity.

IT 124089-78-7P

RL: SPN (Synthetic preparation); PREP (Preparation)

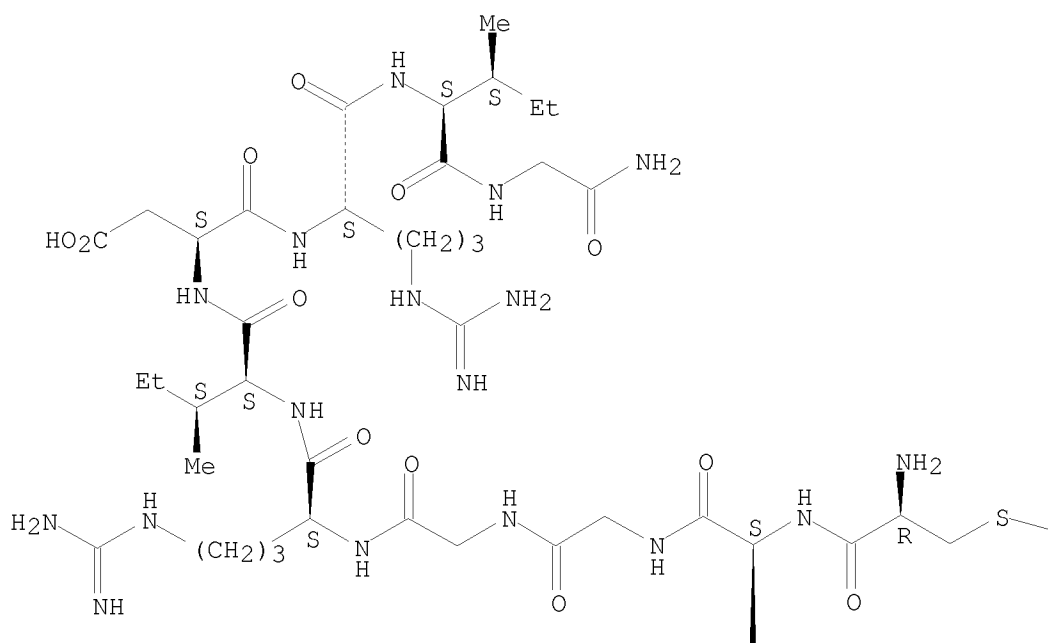
(preparation and atriopeptin receptor binding and guanylate cyclase and vasorelaxation response to, mol. structure in relation to)

RN 124089-78-7 CAPLUS

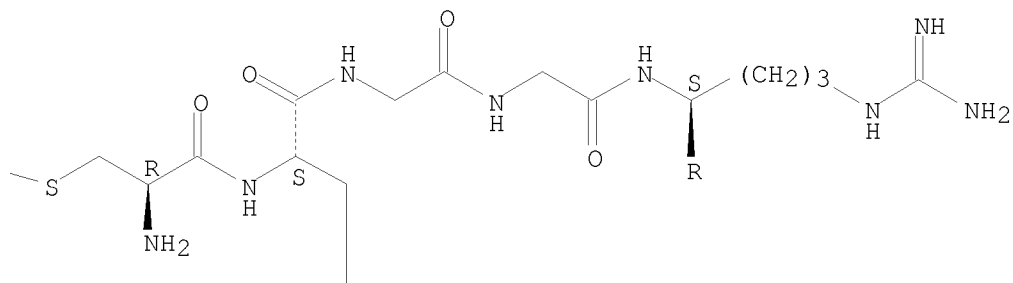
CN Glycinamide, L-cysteinyl-3-cyclohexyl-L-alanylglycylglycyl-L-arginyl-L-isoleucyl-L- α -aspartyl-L-arginyl-L-isoleucyl-, bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

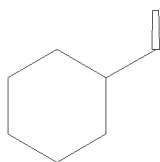
PAGE 1-A



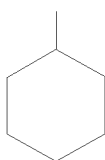
PAGE 1-B

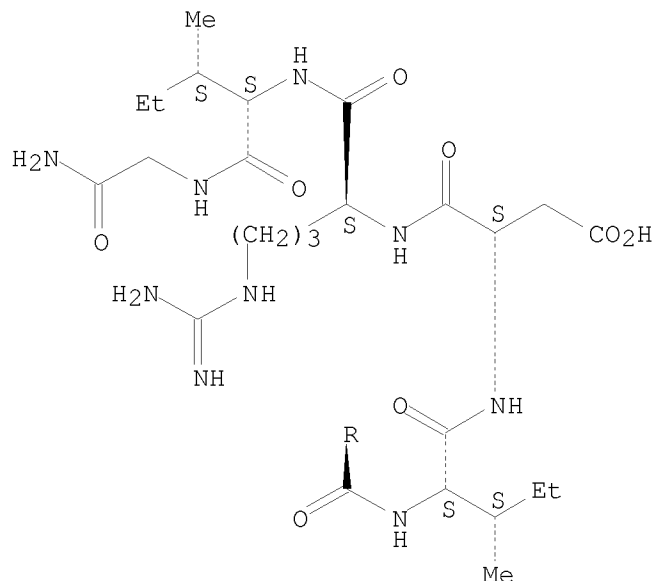


PAGE 2-A



PAGE 2-B





L5 ANSWER 137 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1989:629674 CAPLUS
 DOCUMENT NUMBER: 111:229674
 ORIGINAL REFERENCE NO.: 111:38113a,38116a
 TITLE: Cross bonding and stiffening of the red cell membrane
 AUTHOR(S): Fischer, Thomas M.
 CORPORATE SOURCE: Med. Fak., Rheinisch-Westfälische Tech. Hochsch.
 Aachen, Aachen, D-5100, Fed. Rep. Ger.
 SOURCE: Biochimica et Biophysica Acta, Biomembranes (1989),
 985(2), 218-28
 CODEN: BBBMBS; ISSN: 0005-2736
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Cross bonding and stiffening of the human red cell membrane was studied by using treatments with SH, amino, and carboxyl reagents, oxidizing and denaturing treatments and acidification. Membrane cross bonding was initiated when, after red cell treatment, opposite areas of the cytoplasmic face of the red cell membrane were brought into contact by cell shrinking. Membrane cross bonding was detected by light microscopy when this contact persisted on swelling the cells in a hypotonic medium. Membrane stiffening was recorded as a decrease in elongation of red cells in the shear field of a viscous dextran solution. No correlation was found between membrane cross bonding and membrane stiffening. The results are explained by the existence of 2 modifications of spectrin, type I causing solely membrane stiffening, type II causing membrane cross bonding as well as membrane stiffening. The amino and carboxyl reagents caused only type I modification. The other treatments caused both types of modification although with varying proportions. The results support the previously suggested mechanism of membrane cross bonding which involves a rearrangement of spectrin similar to denaturation by heat or urea, a decrease in assocns. within the membrane skeletal network, and a lateral aggregation of membrane proteins. These changes are proposed to occur by the type II modification. The data further substantiate the membrane stiffening effect of inter- and intra-mol. crosslinking of spectrin which is identified with the type I modification. Finally, hypotheses are presented concerning the mechanism of membrane stiffening due to type II modifications of spectrin.

IT 1069-29-0, L-Cystine dimethyl ester

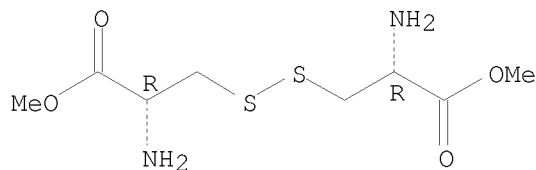
RL: BIOL (Biological study)

(cell membrane cross bonding and membrane stiffening response to, in human erythrocytes)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 138 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1989:520878 CAPLUS

DOCUMENT NUMBER: 111:120878

ORIGINAL REFERENCE NO.: 111:20145a,20148a

TITLE: Manufacture of immunoglobulin-bound antitumor agents

INVENTOR(S): Umemoto, Naoji; Kato, Yoshinori; Hara, Takeshi

PATENT ASSIGNEE(S): Teijin Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63264533	A	19881101	JP 1987-96294	19870421
PRIORITY APPLN. INFO.:			JP 1987-96294	19870421

OTHER SOURCE(S): MARPAT 111:120878

AB Antitumor Ig bound to methotrexate or aminopterin via a crosslinking agent is prepared; the Ig selectively binds to tumor antigens. A methotrexate cysteinamide derivative in DMF was added to a solution containing mouse monoclonal

antibody to mammary tumor, which was bound to maleimido groups to give an antitumor agent.

IT 32854-09-4

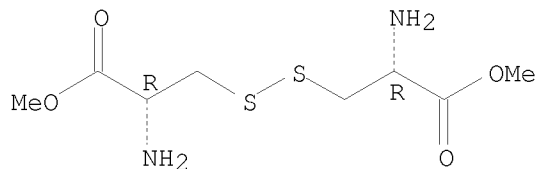
RL: BIOL (Biological study)

(condensation of, with methotrexate for neoplasm inhibition)

RN 32854-09-4 CAPLUS

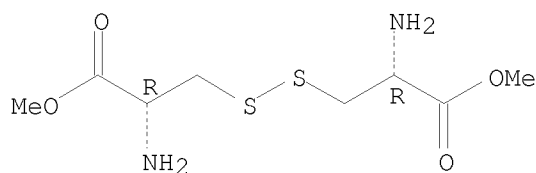
CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 139 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1989:493084 CAPLUS
 DOCUMENT NUMBER: 111:93084
 ORIGINAL REFERENCE NO.: 111:15585a,15588a
 TITLE: p-Nitrophenyl 3-diazopyruvate and diazopyruvamides, a new family of photoactivatable cross-linking bioprobes
 AUTHOR(S): Goodfellow, Val S.; Settineri, Marc; Lawton, Richard G.
 CORPORATE SOURCE: Dep. Chem., Univ. Michigan, Ann Arbor, MI, 48109, USA
 SOURCE: Biochemistry (1989), 28(15), 6346-60
 CODEN: BICHAW; ISSN: 0006-2960
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB p-Nitrophenyl 3-diazopyruvate (DAPpNP) was developed as a heterobifunctional crosslinking agent for synthesis of photoaffinity probes and photoactivatable crosslinking agents that are nucleophile specific. p-Nitrophenyl chloroglycoxylate is formed in high yield from oxalyl chloride and p-nitrophenol. Subsequent reaction with diazomethane produces DAPpNP in 50-60% overall yield. DAPpNP acylates primary and secondary amines to form 3-diazopyruvamides in high yields. 3-Diazopyruvamide derivs. were formed from a wide variety of amines including aromatic amines, amino acids, and peptides. 3-Diazopyruvamides undergo photolysis and Wolff rearrangement at 300 nm to produce a ketene amide, which efficiently acylates nucleophilic species to form malonic acid amide derivs. A family of photoactivatable 3-diazopyruvamide crosslinking agents was synthesized from cystamine. These reagents were caused to react with rabbit muscle aldolase to form mainly dimeric crosslinked species.
 IT 32854-09-4, L-Cystine dimethyl ester dihydrochloride
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with diazopyruvoyl nitrophenyl ester)
 RN 32854-09-4 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 140 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1989:492630 CAPLUS
 DOCUMENT NUMBER: 111:92630
 ORIGINAL REFERENCE NO.: 111:15501a,15504a
 TITLE: Purification and characterization of human microsomal dipeptidase
 AUTHOR(S): Adachi, Hideki; Kubota, Ichiro; Okamura, Nobutaka; Iwata, Hiromitsu; Tsujimoto, Masafumi; Nakazato, Hiroshi; Nishihara, Tatsuro; Noguchi, Teruhisa
 CORPORATE SOURCE: Suntory Inst. Biomed. Res., Osaka, 618, Japan
 SOURCE: Journal of Biochemistry (Tokyo, Japan) (1989), 105(6), 957-61
 CODEN: JOBIAO; ISSN: 0021-924X
 DOCUMENT TYPE: Journal

LANGUAGE: English

AB Human microsomal dipeptidase (MDP, formerly referred to as dehydropeptidase-I or renal dipeptidase) [EC 3.4.13.11] was solubilized from the membrane fraction of kidney by treatment with octyl- β -D-glucoside and purified by a procedure including ion exchange chromatog. and affinity chromatog. on cilastatin-immobilized Sepharose. The purified human MDP was homogeneous on SDS-PAGE. The apparent mol. weight (Mr) was estimated by SDS-PAGE under nonreducing conditions

to be 130 kDa, comprising a homodimer of 2 subunits. After treatment with endoglycosidase F, human MDP showed a single band with an apparent Mr of 42 kDa on SDS-PAGE. Human MDP bound to Con A-Sepharose and the activity was eluted with methyl- α -D-mannopyranoside, suggesting that human MDP is a glycoprotein. Human MDP catalyzed the hydrolysis of S(substituent)-L-cysteinyl-glycine adducts such as L-cystinyl-bis(glycine) and S-N-ethylmaleimide-L-cysteinyl-glycine, as well as the conversion of leukotriene D4 to leukotriene E4. These results suggest that MDP might play an important role in the metabolism of glutathione and leukotriene.

IT 7729-20-6

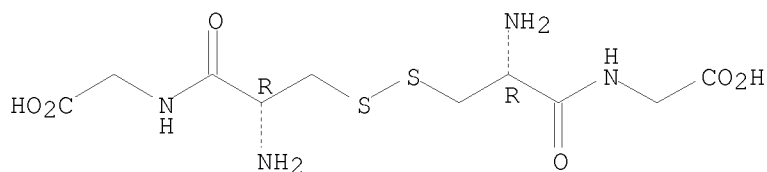
RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with dipeptidase of human microsomes, kinetics of)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 141 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1989:478722 CAPLUS

DOCUMENT NUMBER: 111:78722

ORIGINAL REFERENCE NO.: 111:13279a,13282a

TITLE: Synthesis and evaluation of bioerodible non-peptide polyamides containing α -amino acid residues

AUTHOR(S): Harris, Frank W.; Eury, Robert P.

CORPORATE SOURCE: Dep. Polym. Sci., Univ. Akron, Akron, OH, 44325, USA

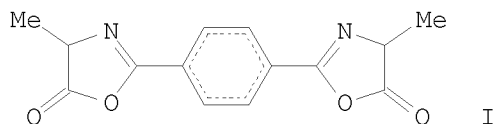
SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (1989), 30(1), 449-50

CODEN: ACPPAY; ISSN: 0032-3934

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



AB Ring-opening polymerization of bisoxazolones with diamines, aminoalcs., or aminothiols, gave hydrolyzable polymers which were soluble in DMF, DMSO, and N-methylpyrrolidone. Dye release rates upon dissoln. of mixts. of

amaranth with saponified I-H₂NCH₂CH₂OH copolymers were constant and equal to 18 h.mm-1, but the rates were decreased to 24 h.mm-1 in the presence of maleic anhydride excipients or to 136 h.mm-1 with 1,2-cis-cyclohexanedicarboxylic anhydride excipients.

IT 122091-33-2P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and characterization of)

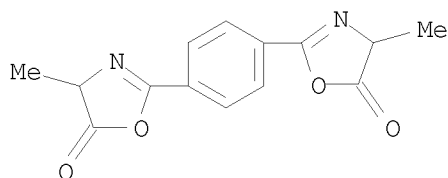
RN 122091-33-2 CAPLUS

CN L-Cystine, dimethyl ester, polymer with
2,2'-(1,4-phenylene)bis[4-methyl-5(4H)-oxazolone] (9CI) (CA INDEX NAME)

CM 1

CRN 22102-60-9

CMF C14 H12 N2 O4

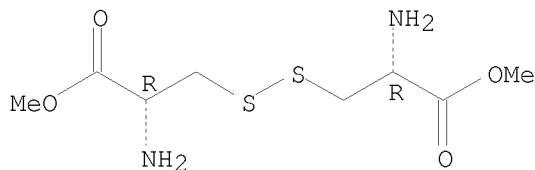


CM 2

CRN 1069-29-0

CMF C8 H16 N2 O4 S2

Absolute stereochemistry.



L5 ANSWER 142 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1989:478593 CAPLUS

DOCUMENT NUMBER: 111:78593

ORIGINAL REFERENCE NO.: 111:13258h,13259a

TITLE: Preparation of methotrexate derivatives as anticancer agents

INVENTOR(S): Kato, Yoshinori; Umemoto, Naoji; Hara, Takeshi

PATENT ASSIGNEE(S): Teijin Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

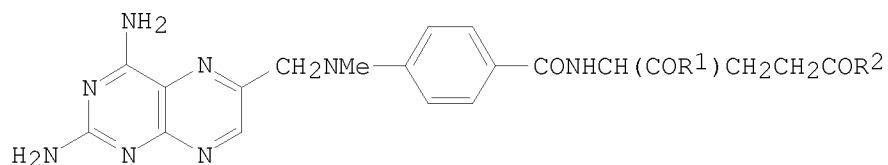
DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 63233984	A	19880929	JP 1987-65795	19870323
PRIORITY APPLN. INFO.:			JP 1987-65795	19870323
OTHER SOURCE(S):	MARPAT	111:78593		
GI				



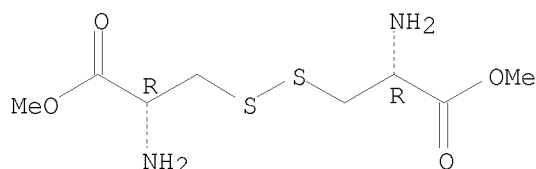
AB The title compds. [I; 1 of R1, R2 = OH, the other = [NHCH[(CH2)mCO2H]CO]nNHCH(CH2SH)CO2H; n = 0, 1; m = 1, 2], are prepared by treating methotrexate (II) with H[NHCH[(CH2)mCO2X1]CO]nNHCH(CO2X2)CH2SSCH2CH(CO2X2)NH[COCH[(CH2)mCO2X1]NH]nH (X1, X2 = Me, benzyl) in the presence of a dehydration agent and alkali treatment and reduction of the resulting products. Aqueous NaOH containing II was treated with L-cystine di-Me ester-2HCl, then the mixture was adjusted to pH 6.70 and stirred 15 h with 1-ethyl-3-[3-(dimethylamino)propyl]carbodiimide-HCl at room temperature to give a product which was treated 5 h in aqueous NaOH at room temperature, then heated 30 min at 50° with dithiothreitol to give 54.4% N-(L-amethopteryl)-L-cysteine (IV). Monoclonal antibody (IgG2a) to mouse mammary gland tumors was treated with N-succinimidyl 3-(2-pyridyldithio)propionate and IV to give a methotrexate-IgG2a conjugate. The modified IgG2a added at 3.2 μM to an incubation medium containing mouse mammary gland tumor MM-46 cells decreased the number of cells from 114 + 104/mL to 3.7 + 104/mL in 3 days, vs. 47 + 104/mL using IgG2a modified by a 2-mercaptoethylamide derivative of II.

IT 32854-09-4, L-Cystine dimethyl ester dihydrochloride
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (condensation of, with methotrexate)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 143 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1989:154872 CAPLUS

DOCUMENT NUMBER: 110:154872

ORIGINAL REFERENCE NO.: 110:25635a, 25638a

TITLE: Rational design of templates for intramolecular O,N-acyl transfer via medium-sized cyclic intermediates derived from L-cysteine. Definition of an experimental maximum in effective molarity through the study of "tunable" templates

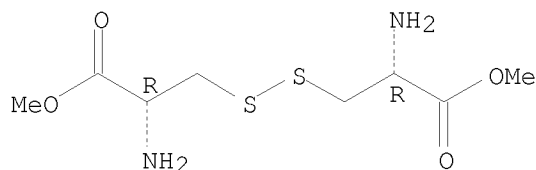
AUTHOR(S): Kemp, Daniel S.; Carey, Robert I.; Dewan, John C.; Galakatos, Nicholas G.; Kerkman, Daniel; Leung, See Lap

CORPORATE SOURCE: Dep. Chem., Massachusetts Inst. Technol., Cambridge, MA, 02139, USA
 SOURCE: Journal of Organic Chemistry (1989), 54(7), 1589-603
 CODEN: JOCEAH; ISSN: 0022-3263
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 110:154872

AB Rate consts. and effective molarities for intramol. O,N-acyl transfer have been measured for a series of unsym. disulfides derived from cysteine and having the general structure H-Cys(SXOAc)-OMe, where X is a rigid mol. spacing element that maintains a fixed O-S distance (dOS) in the range of 4.5-6.5 Å. A synthetic route to 4-hydroxy-6-mercaptodibenzothiophene, involving lithiation of 4-methoxydibenzothiophene followed by reaction with elemental sulfur and positional isomer separation is described. A maximum effective molarity (EM) value of 5 M is seen for the 4,6-disubstituted dibenzofuran function (dOS = 5.45 Å), while EM values of less than 0.1 M are seen for 4,6-disubstituted phenoxathiin and 4,6-disubstituted dibenzothiophene functions (dOS = 3.90 and 6.30 Å, resp.). Distance calcns. and ests. of strain energy based on torsional and van der Waals terms are used to show that this result is consistent with a cyclic transition state containing one conformation of the cysteine framework. Energy minimization calcns. were carried out by using a novel null-vector procedure for finding allowed torsional motions. They imply that the transition state for O,N-acyl transfer is strained by ca. 6 kcal/mol in the dibenzofuran case.

IT 1069-29-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (sequential peptide coupling of, with benzyloxycarbonylalanine, and disulfide cleavage of)
 RN 1069-29-0 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



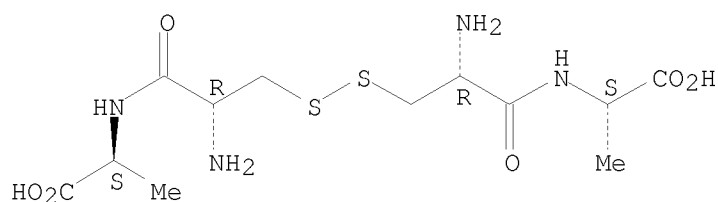
L5 ANSWER 144 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1989:150479 CAPLUS
 DOCUMENT NUMBER: 110:150479
 ORIGINAL REFERENCE NO.: 110:24793a,24796a
 TITLE: Reagents for quantitative determination of cystylaminopeptidase in body fluids
 INVENTOR(S): Kurosaka, Keisuke; Shiraishi, Takanari; Kondo, Hitoshi; Nagata, Kazuhiko
 PATENT ASSIGNEE(S): Unitika Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63094997	A	19880426	JP 1986-239646	19861007
PRIORITY APPLN. INFO.:			JP 1986-239646	19861007

AB A reagent for determination of cystylaminopeptidase (I) in e.g. blood serum consists of amino acid dehydrogenase and a I-specific substrate. A reagent consisted of L-cystinylbis-L-leucine 8, tricine 75, NAD(P) 5 mM, leucine dehydrogenase 6 units/mL, and Triton X-100 1.0%. A standard or test serum was treated with the reagent at 37° and the absorbance at 340 nm was monitored for I determination

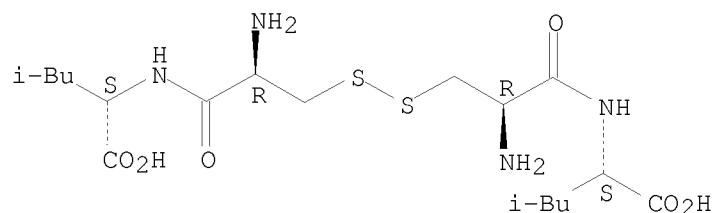
IT 20898-21-9 21141-85-5
 RL: BIOL (Biological study)
 (cystylaminopeptidase enzymic-spectrometric determination with reagent containing)
 RN 20898-21-9 CAPLUS
 CN L-Alanine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 21141-85-5 CAPLUS
 CN L-Leucine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 145 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1989:107738 CAPLUS
 DOCUMENT NUMBER: 110:107738
 ORIGINAL REFERENCE NO.: 110:17615a,17618a
 TITLE: Cytotoxicities of two disulfide-bond-linked conjugates of methotrexate with monoclonal anti-MM46 antibody
 AUTHOR(S): Umemoto, Naoji; Kato, Yoshinori; Hara, Takeshi
 CORPORATE SOURCE: Chem. Biochem. Res. Dep., Teijin Inst. Biomed. Res., Tokyo, 191, Japan
 SOURCE: Cancer Immunology Immunotherapy (1989), 28(1), 9-16
 CODEN: CIIMDN; ISSN: 0340-7004
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB In studies on (antitumor antibody)-drug conjugates as potential antitumor agents, the amide derivs. of methotrexate (MTX) with cysteine and with 2-mercaptoethylamine (cysteamine) (MTX-Cys and MTX-MEA, resp.) were linked via a disulfide bond with a monoclonal antibody (α MM46) to a mouse mammary tumor MM46 with attached 3-(2-pyridyldithio)propionyl groups to give conjugates of MTX with α MM46 (MTX-Cys-SS- α MM46 and MTX-MEA-SS- α MM46, resp.). These 2 conjugates are both linked by a disulfide bond and are very similar in structure, but

MTX-MEA-SS- α MM46 showed only weak in vitro cytotoxicity against MM46 cells, whereas MTX-Cys-SS- α MM46 had strong cytotoxicity. The cytotoxicity of the latter was comparable to that of the conventional direct MTX- α -MM46 conjugate prepared with an MTX-active ester. However, this conjugate had a greater selectivity than that of the direct conjugate, calculated as the IC50 (concentration of a conjugate by MTX

equivalence

required for suppression of the number of viable MM46 cells to 50% of that of the untreated control) for the corresponding nonspecific conjugate divided by the IC50 for the α MM46 conjugate. The inhibitory activities of MTX-Cys and MTX-MEA on dihydrofolate reductase were similar. The cytotoxicity of MTX-Cys-SS- α MM46 was not affected by thiamine pyrophosphate, an inhibitor of the active transport of MTX across the cell membrane, but was decreased significantly by ammonium chloride, a lysosomotropic amine. However, the cytotoxicity was decreased only to a small extent by leupeptin, an inhibitor of lysosomal cysteine proteases cathepsins B, H, and L. These results suggest that the cytotoxicity is mediated by lysosomes, and may involve lysosomal enzymes other than cathepsins B, H, and L.

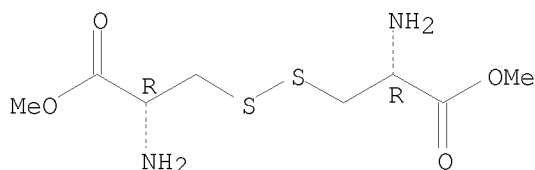
IT 32854-09-4

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with methotrexate)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 146 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1989:89307 CAPLUS

DOCUMENT NUMBER: 110:89307

ORIGINAL REFERENCE NO.: 110:14637a,14640a

TITLE: Synthesis of β -oxidation products as potential leukotriene metabolites and their detection in bile of anesthetized rat

AUTHOR(S): Delorme, D.; Foster, A.; Girard, Y.; Rokach, J.
CORPORATE SOURCE: Dep. Med. Chem., Merck Frosst Canada Inc., Pointe Claire-Dorval, QC, H9R 4P8, Can.

SOURCE: Prostaglandins (1988), 36(3), 291-302
CODEN: PRGLBA; ISSN: 0090-6980

DOCUMENT TYPE: Journal

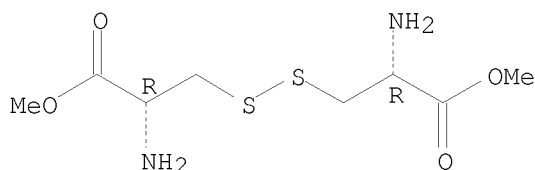
LANGUAGE: English

AB Two novel β -oxidation products of peptido leukotrienes, 16-carboxy-17,18,19,20-tetranor-14,15-dihydro-N-acetyl LTE4 and 18-carboxy-19,20-dinor-N-acetyl LTE4, were prepared by total synthesis and used to identify previously unknown polar rat biliary metabolites. When [3H] LTC4 and synthetic N-acetyl-LTE4 were administered i.v. to anesthetized inbred male rats, extraction of the bile and subsequent reversed-phase HPLC fractionation allowed the isolation of 2 novel metabolites of N-acetyl-LTE4. A comparison of UV spectra and coelution expts. revealed that these metabolites correspond to the above-mentioned

synthetic β -oxidation products. This was further confirmed by the coelution of the corresponding Me esters. Oxidative ozonolysis of the metabolically produced 16-carboxy-17,18,19,20-tetranor-14,15-dihydro-N-acetyl LTE4 (major metabolite) confirmed the absence of the 14,15-unsatn. The presence of these metabolites indicates that peptide leukotrienes undergo N-acetylation followed by ω - and subsequent β -oxidation in the anesthetized rat.

IT 32854-09-4P, Cystine dimethyl ester dihydrochloride
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and acetylation and reduction of)
 RN 32854-09-4 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

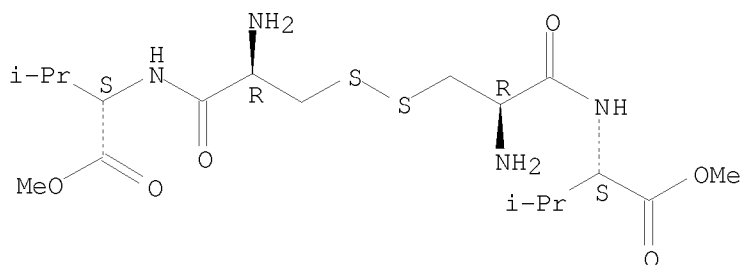
Absolute stereochemistry.



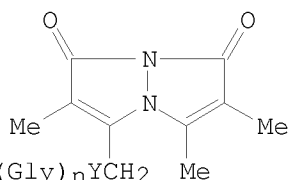
● 2 HCl

L5 ANSWER 147 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1989:58064 CAPLUS
 DOCUMENT NUMBER: 110:58064
 ORIGINAL REFERENCE NO.: 110:9629a,9632a
 TITLE: Sulfur-sulfur exchange in cystine-containing peptides in mass spectrometry
 AUTHOR(S): Reshetova, O. S.; Rozynov, B. V.; Bogdanova, I. A.; Merimson, V. G.; Kondrat'ev, V. M.; Fridlyanskii, G. V.; Nikolaev, V. A.; Zhuze, A. L.
 CORPORATE SOURCE: Inst. Bioorg. Khim. im. Shenyakina, Moscow, USSR
 SOURCE: Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1988), (6), 1298-305
 CODEN: IASKA6; ISSN: 0002-3353
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 GI For diagram(s), see printed CA Issue.
 AB Various methods of mass spectrometric anal. were used to record the spectra of cystine-containing peptides I (R = CF3CO, X = Gly, Val; R = H, X = Val) and II (R = CF3CO, H). Sulfur-sulfur exchange was not observed by the method involving extraction of ions from solution at atmospheric pressure.
 IT 118408-43-8
 RL: PRP (Properties)
 (mass spectrum of)
 RN 118408-43-8 CAPLUS
 CN L-Valine, L-cysteinyl-, methyl ester, bimol. (1 \rightarrow 1')-disulfide (9CI)
 (CA INDEX NAME)

Absolute stereochemistry.

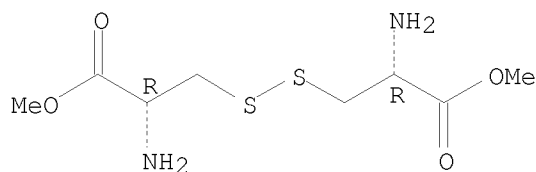


L5 ANSWER 148 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1989:20189 CAPLUS
 DOCUMENT NUMBER: 110:20189
 ORIGINAL REFERENCE NO.: 110:3377a,3380a
 TITLE: Organic fluorescent reagents. XIV. Novel fluorogenic substrates for microdetermination of chymotrypsin and aminopeptidase: bimane fluorescence appears after hydrolysis
 AUTHOR(S): Sato, Eisuke; Sakashita, Mari; Kanaoka, Yuichi; Kosower, Edward M.
 CORPORATE SOURCE: Fac. Pharm. Sci., Hokkaido Univ., Sapporo, 060, Japan
 SOURCE: Bioorganic Chemistry (1988), 16(3), 298-306
 CODEN: BOCMBM; ISSN: 0045-2068
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 110:20189
 GI



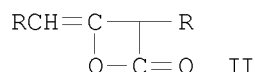
AB The fluorescence of 9,10-dioxa-syn-3,4,6,7-tetramethylbimane (bimane) was quenched in the presence of tryptophan or tyrosine. Based on this observation, the bimane system was utilized as a fluorophore within proteolytic enzyme substrates. Bimane peptides containing tryptophan (I, n = 0 or 1, X = Z or H, Y = O or NH) were prepared and shown to be potent fluorogenic substrates for the assay of chymotrypsin and aminopeptidase.
 IT 1069-29-0, Cystine dimethyl ester
 RL: USES (Uses)
 (fluorescence of bimane derivative in presence of)
 RN 1069-29-0 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 149 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1988:631542 CAPLUS
 DOCUMENT NUMBER: 109:231542
 ORIGINAL REFERENCE NO.: 109:38321a,38324a
 TITLE: Preparation of lipophilic amino acid derivatives as
 immune adjuvants
 INVENTOR(S): Jung, Guenther; Metzger, Joerg
 PATENT ASSIGNEE(S): Hoechst A.-G., Fed. Rep. Ger.
 SOURCE: Ger. Offen., 8 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

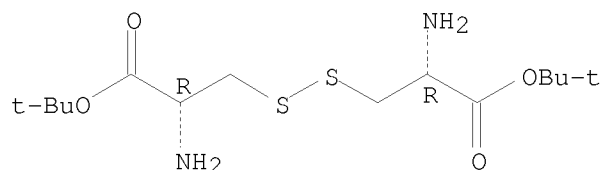
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3700173	A1	19880714	DE 1987-3700173	19870105
EP 273439	A2	19880706	EP 1987-119290	19871229
EP 273439	A3	19891220		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
DK 8706932	A	19880706	DK 1987-6932	19871230
FI 8705787	A	19880706	FI 1987-5787	19871231
NO 8800007	A	19880706	NO 1988-7	19880104
ZA 8800014	A	19880831	ZA 1988-14	19880104
JP 63264444	A	19881101	JP 1988-60	19880104
AU 8810053	A	19880707	AU 1988-10053	19880105
AU 612130	B2	19910704		
PRIORITY APPLN. INFO.:			DE 1987-3700173	A 19870105
OTHER SOURCE(S):			CASREACT 109:231542; MARPAT 109:231542	
GI				



AB Lipophilic RCH₂COCHRCONHCHR₁COX (I; R = C>6 alkyl; R₁ = amino acid side chain, H; X = carboxy protecting group, protected amino acid or peptide) useful as immune adjuvants (no data) were prepared by reaction of ketene dimer II with an amino acid ester. II [R = Me(CH₂)₁₅] was added to H-Gly-OCMe₃ in pyridine. DMAP was added at 50° and the mixture was stirred 2 h to give 72% I [R = Me(CH₂)₁₅, R₁ = H, X = OCMe₃].

IT 62574-13-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (condensation of, with fatty acid diketene derivs., in preparation of amino stimulants)
 RN 62574-13-4 CAPLUS
 CN L-Cystine, 1,1'-bis(1,1-dimethylethyl) ester (CA INDEX NAME)

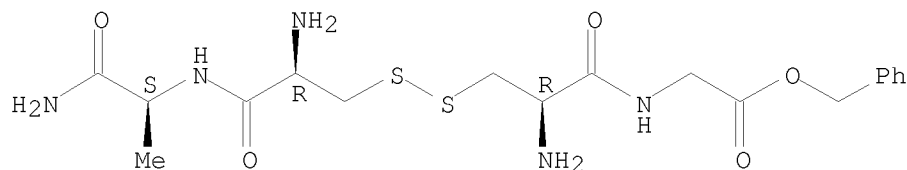
Absolute stereochemistry. Rotation (-).



ACCESSION NUMBER: 1988:590823 CAPLUS
 DOCUMENT NUMBER: 109:190823
 ORIGINAL REFERENCE NO.: 109:31607a,31610a
 TITLE: Studies on peptides. CLVIII. Model experiments for the synthesis of open-chain unsymmetrical cystine-peptides
 AUTHOR(S): Fujii, Nobutaka; Otaka, Akira; Funakoshi, Susumu; Watanabe, Toshihiro; Arai, Hiromitsu; Bessho, Kiyoshi; Yajima, Haruaki
 CORPORATE SOURCE: Fac. Pharm. Sci., Kyoto Univ., Kyoto, 606, Japan
 SOURCE: Journal of Protein Chemistry (1988), 7(2), 151-6
 CODEN: JPCHD2; ISSN: 0277-8033
 DOCUMENT TYPE: Journal
 LANGUAGE: English

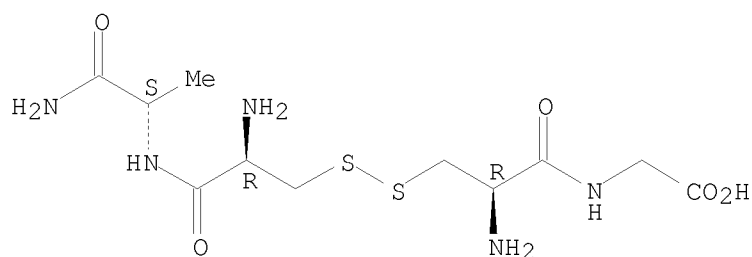
AB Treatment of a mixture of Cys(R)(O) [R = 4-MeOC₆H₄CH₂ (MBzl), AcNHCH₂ (Acm), 1-adamantyl (Ad)] and Cys(R1) (R1 = MBzl, Ad, CMe₃, H) with an acid was found to generate cystine in fairly good yields, when suitable R, R1, and an acid were selected. An unsym. cystine peptide was prepared by treatment of a mixture of Z(OMe)-Cys(R)(O)-Ala-NH₂ [R = Acm, MBzl; Z(OMe) = 4-MeOC₆H₄CH₂O₂C] and Z(OMe)-Cys(MBzl)-Gly-OCH₂Ph with CF₃CO₂H or 1M CF₃SO₃H/CF₃CO₂H. Oxytocin was obtained in an excellent yield by treatment of the protected peptide containing Cys(Acm)(O) and Cys(MBzl) with CF₃CO₂H.
 IT 114854-98-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and deblocking of, with trifluoromethanesulfonic acid)
 RN 114854-98-7 CAPLUS
 CN L-Alaninamide, L-cysteinyl-, (1→1')-disulfide with
 L-cysteinylglycine phenylmethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 114854-99-8P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 114854-99-8 CAPLUS
 CN L-Alaninamide, L-cysteinyl-, (1→1')-disulfide with
 L-cysteinylglycine (9CI) (CA INDEX NAME)

Absolute stereochemistry.



DOCUMENT NUMBER: 109:190797
 ORIGINAL REFERENCE NO.: 109:31603a,31606a
 TITLE: New strategy for the chemical synthesis of proteins
 AUTHOR(S): Yajima, Haruaki; Fujii, Nobutaka; Funakoshi, Susumu;
 Watanabe, Toshihiro; Murayama, Eigoro; Otaka, Akira
 CORPORATE SOURCE: Fac. Pharm. Sci., Kyoto Univ., Kyoto, 606, Japan
 SOURCE: Tetrahedron (1988), 44(3), 805-19
 CODEN: TETRAB; ISSN: 0040-4020
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 109:190797

AB For the chemical synthesis of proteins, an efficient deprotecting procedure by combination of a hard acid, such as $\text{Fe}_3\text{CSO}_3\text{SiMe}_3$ or Me_3SiBr , and a soft nucleophile, such as thioanisole, is described. For disulfide bond formation, two new procedures are presented; one by oxidation with $\text{Ti}(\text{O}_2\text{CCF}_3)_3$ and the other by the acid-catalyzed reaction involving S-substituted cysteine sulfoxides.

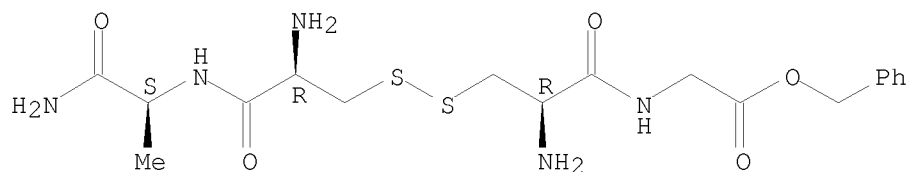
IT 114854-98-7

RL: RCT (Reactant); RACT (Reactant or reagent)
 (oxidative disulfide coupling of, with cysteine-containing peptide)

RN 114854-98-7 CAPLUS

CN L-Alaninamide, L-cysteiny-, (1→1')-disulfide with
 L-cysteinyglycine phenylmethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



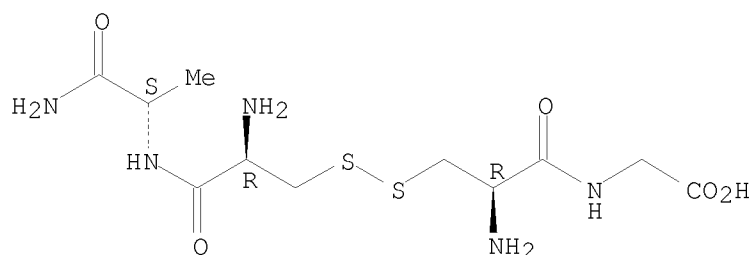
IT 114854-99-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

RN 114854-99-8 CAPLUS

CN L-Alaninamide, L-cysteiny-, (1→1')-disulfide with
 L-cysteinyglycine (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 152 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1988:549866 CAPLUS

DOCUMENT NUMBER: 109:149866

ORIGINAL REFERENCE NO.: 109:24943a,24946a

TITLE: Amino acid derivatives of 4-pregnene-3,20-diones and
 1,4-pregnadiene-3,20-diones with glucocorticoid and
 antiinflammatory properties, pharmaceutical
 compositions containing them, and processes for their

preparation
 INVENTOR(S): Milioni, Catherine; Efthyimiopoulos, Constantin; Koch, Bernard; Jung, Louis; Jung, Jean
 PATENT ASSIGNEE(S): Universite Louis Pasteur de Strasbourg, Fr.
 SOURCE: Fr. Demande, 16 pp.
 CODEN: FRXXBL
 DOCUMENT TYPE: Patent
 LANGUAGE: French
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2600653	A1	19871231	FR 1986-9246	19860624
FR 2600653	B1	19881216		
WO 8800202	A1	19880114	WO 1987-FR244	19870624
W: JP, US				
EP 254655	A1	19880127	EP 1987-440040	19870624
EP 254655	B1	19930421		
R: AT, BE, CH, DE, ES, GB, GR, IT, LI, LU, NL, SE				
JP 01500430	T	19890216	JP 1987-503786	19870624
AT 88479	T	19930515	AT 1987-440040	19870624
US 4913852	A	19900403	US 1988-166122	19880224
PRIORITY APPLN. INFO.:			FR 1986-9246	A 19860624
			EP 1987-440040	A 19870624
			WO 1987-FR244	W 19870624
OTHER SOURCE(S):	CASREACT 109:149866; MARPAT 109:149866			
GI				

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

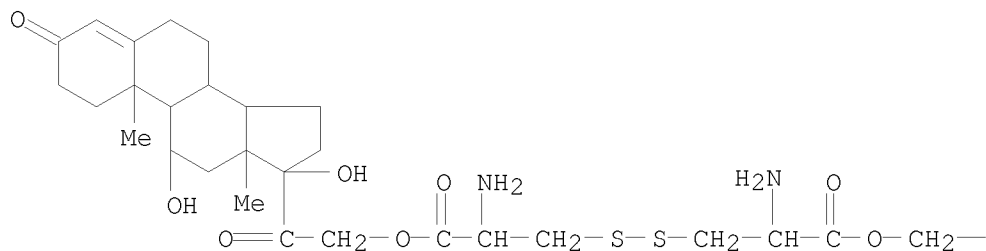
AB Title derivs. I, II, and III [R1 = oxo, thioxo, Cl, OH; R2, R3 = H, F, Cl, Me; R4, R5 = H, OH, Me, Et; R5 may also be :CH2; R4R5 = OCH(Y)O, OC(Y)2O wherein Y = H, alkyl; R6 = H, amino acid-type side-chain; R7, R8 = H, alkyl; COZ where Z = alkyl or aralkyl; R9 = H, Na, K, Ca, alkyl, aralkyl; R10 = as given for R9; R11, R12 = as given for R7 and R8; X = O, S; n = 1-6; optional Δ1] are prepared for use as glucocorticoids and antiinflammatories. Hydrocortisone 21-methanesulfonate was added to a solution of methionine Me ester-HCl and Et3N in DMF. The mixture was stirred for 2 h at 40° and extracted, and the product acidified by HCl in MeOH to give 60% ester IV.HCl. IV had a glucocorticoidal activity equivalent to that of dexamethasone, as determined by diminished secretion of α-MSH by corticotropic tumor cells in vitro.

IT 116802-55-2P 116818-87-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, as glucocorticoid and antiinflammatory agent)

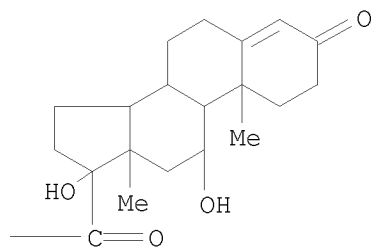
RN 116802-55-2 CAPLUS

CN L-Cystine, bis[(11β)-11,17-dihydroxy-3,20-dioxopregn-4-en-21-yl]
 ester (9CI) (CA INDEX NAME)

PAGE 1-A

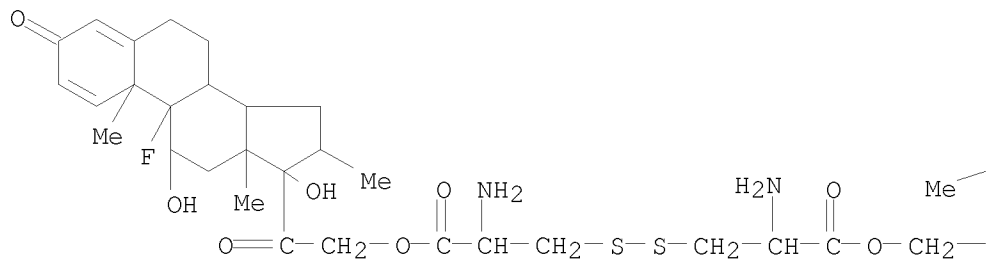


PAGE 1-B

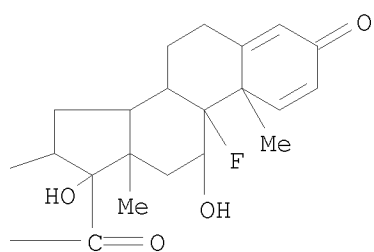


RN 116818-87-2 CAPLUS
CN L-Cystine, bis[(11β)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl] ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

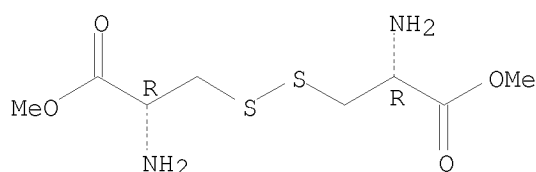


REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 153 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1988:549164 CAPLUS
DOCUMENT NUMBER: 109:149164
ORIGINAL REFERENCE NO.: 109:24795a,24798a

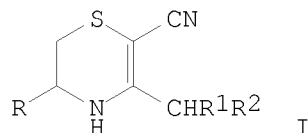
TITLE: A simple and enantioselective synthesis of (+)-biotin
 AUTHOR(S): Corey, E. J.; Mehrotra, Mukund M.
 CORPORATE SOURCE: Dep. Chem., Harvard Univ., Cambridge, MA, 02138, USA
 SOURCE: Tetrahedron Letters (1988), 29(1), 57-60
 CODEN: TELEAY; ISSN: 0040-4039
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 109:149164
 AB (+)-Biotin was prepared enantioselectively and stereospecifically in 12 steps from L-cystine di-Me ester.
 IT 32854-09-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with phosgene)
 RN 32854-09-4 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 154 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1988:528931 CAPLUS
 DOCUMENT NUMBER: 109:128931
 ORIGINAL REFERENCE NO.: 109:21481a, 21484a
 TITLE: Allenes. Part 48. A new general method for the synthesis of dihydro-4H-1,4-thiazines
 AUTHOR(S): Landor, Stephen R.; Landor, Phyllis D.; Seliki-Muruumu, John; Fomum, Z. Tanee; Mbafor, J. Tanyi
 CORPORATE SOURCE: Dep. Chem., Univ. Exeter, Exeter, EX4 4QD, UK
 SOURCE: Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1988), (7), 1759-63
 CODEN: JCPRB4; ISSN: 0300-922X
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 109:128931
 GI



AB The base-catalyzed reaction between R1R2C:C:CHCN (R1 = R2 = Me, Et; R1 = Me, R2 = Et, Pr, CMe3) and aminoethanethiol, cystamine, cysteine, cysteine Me ester, cystine or cystine di-Me ester in refluxing ethanol, with passage of oxygen through the reaction mixture, gives 80-90% yields of

3-alkyl-5,6-dihydro-4H-1,4-thiazine-2-carbonitriles I (R = H) and chiral 5-carboxy I (R = CO₂H) and 5-methoxycarbonyl I (R = CO₂Me) analogs. Detailed investigation and spectroscopic studies have elucidated the seven-step mechanism of this one-pot reaction. Under similar conditions, 2-aminothiophenol failed to give the corresponding 1,4-benzothiazines. Alkaline H₂O₂ oxidized the dihydrothiazine I (R = H, R₁ = Me, R₂ = Et) to the S-oxide quant.

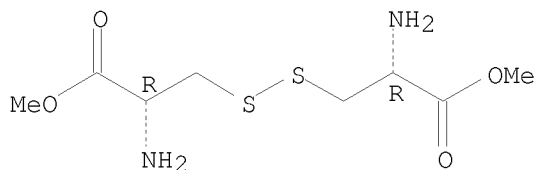
IT 32854-09-4

RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclization by, of allenic nitriles, thiazines from)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 155 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1988:493629 CAPLUS

DOCUMENT NUMBER: 109:93629

ORIGINAL REFERENCE NO.: 109:15653a,15656a

TITLE: Preparation of cystine-containing peptides as soluble, heat-stable, injectable nutrients

INVENTOR(S): Naderer, Rainer; Langer, Klaus; Buxbaum, Lothar

PATENT ASSIGNEE(S): Bleiberger Bergwerks-Union, Austria; Pfrimmer und Co. Pharmazeutische Werke Erlangen G.m.b.H. und Co. K.-G.

SOURCE: Eur. Pat. Appl., 10 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 267179	A2	19880511	EP 1987-890244	19871104
EP 267179	A3	19900228		
EP 267179	B1	19930217		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, NL, SE				
AT 8602980	A	19970215	AT 1986-2980	19861107
AT 402931	B	19970925		
US 4801579	A	19890131	US 1987-115796	19871102
AT 85798	T	19930315	AT 1987-890244	19871104
ES 2053589	T3	19940801	ES 1987-890244	19871104
JP 63233999	A	19880929	JP 1987-281952	19871106
PRIORITY APPLN. INFO.:			AT 1986-2980	A 19861107
			EP 1987-890244	A 19871104

OTHER SOURCE(S): MARPAT 109:93629

AB [R1XNHCH(COR2)CH2S]2 [I; R₁ = amino acid residue, acyl; R₂ = alkoxy (preferable, MeO, EtO), OH; X = L-amino acid residue (preferably Gly, Ala, Pro, Thr, Ser, Val, Arg, Lys, Orn) and salts were prepared as injectable forms of cystine. L,L-Cystine in 1N NaOH was treated with

N-benzyloxycarbonylglycine N-hydroxysuccinimide ester in acetone at 10° and kept for 12 h to give 65% bis(benzyloxycarbonylglycyl)-L,L-cystine. The latter was treated with 33% HBr/HOAc and then Ac2O/aqueous NaOH to give 49% bis(acetylglycyl)-L,L-cystine.

IT 32854-09-4, Cystine dimethyl ester dihydrochloride

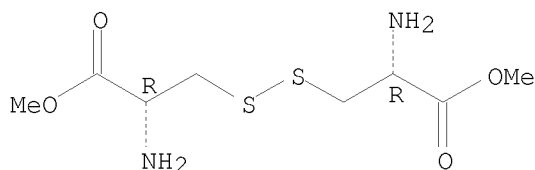
RL: RCT (Reactant); RACT (Reactant or reagent)

(peptide coupling of, in preparation of soluble nutrient)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 156 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1988:493572 CAPLUS

DOCUMENT NUMBER: 109:93572

ORIGINAL REFERENCE NO.: 109:15641a,15644a

TITLE: Solid state and solution conformation of phenylacetyl-L-cysteiny-D-penicillamine cyclic disulfide methyl ester; a cyclic dipeptide containing a trans-amide

AUTHOR(S): Baxter, Robert L.; Glover, Steven S. B.; Gordon, Eric M.; Gould, Robert O.; McKie, Marion C.; Scott, A. Ian; Walkinshaw, Malcolm D.

CORPORATE SOURCE: Dep. Chem., Univ. Edinburgh, Edinburgh, EH9 3JJ, UK

SOURCE: Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1988), (2), 365-71

CODEN: JCPRB4; ISSN: 0300-922X

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 109:93572

AB The conformation of the title compds. (I) has been determined by x-ray crystallog. and by solution ¹H NMR studies. In the solid state the mols. possess a distorted trans lactam structure ($\Delta\omega \approx 30^\circ$) with a P-helical disulfide bridge. Individual mols. in the crystal are H-bonded between the side chain amide and lactam functions to form a β -pleated sheet array. Assignment of the solution conformation was carried out by comparison of coupling consts. with calculated values derived from crystal data, comparison of chemical shifts, and temperature coeffs. of the NH resonances in (CD₃)₂SO and CDCl₃ and by NOE difference measurements. The structure and conformation of I in solution was similar to that in the solid state. The sulfone of I has a similar solution conformation.

IT 115940-43-7

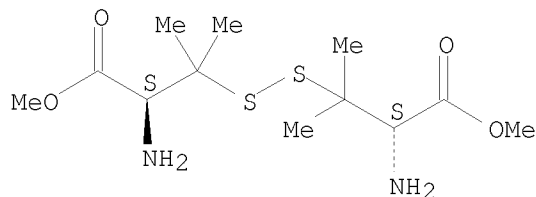
RL: RCT (Reactant); RACT (Reactant or reagent)

(disulfide coupling reaction of, with cystine derivative)

RN 115940-43-7 CAPLUS

CN D-Valine, 3,3'-dithiobis-, dimethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 157 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1988:489463 CAPLUS

DOCUMENT NUMBER: 109:89463

ORIGINAL REFERENCE NO.: 109:14867a,14870a

TITLE: Effect of cystine-containing linear and cyclic peptides on the acid formation by some strains of *Lactobacillus casei* var. *casei*

AUTHOR(S): Kirov, N.; Vezenkov, L.; Mladenova-Orlinova, L.

CORPORATE SOURCE: Dep. Org. Chem., Inst. Chem. Technol., Sofia, Bulg.

SOURCE: Doklady Bolgarskoi Akademii Nauk (1987), 40(12), 45-7
CODEN: DBANAD; ISSN: 0366-8681

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A series of 8 linear and 2 cyclic cysteine-containing peptides were tested for their effects on lactic acid fermentation by *L. casei casei*. Threonine bis(pentapeptides) stimulated acid formation by 130-227% while serine analogs were ineffective. One of the 2 cyclic peptides [bis(octapeptide)] markedly stimulated lactate formation while the other was inactive. The results show that the presence of a threonine residue is essential for activity. Strain-related differences were observed in the stimulatory effects of the tested peptides.

IT 115784-25-3

RL: BIOL (Biological study)

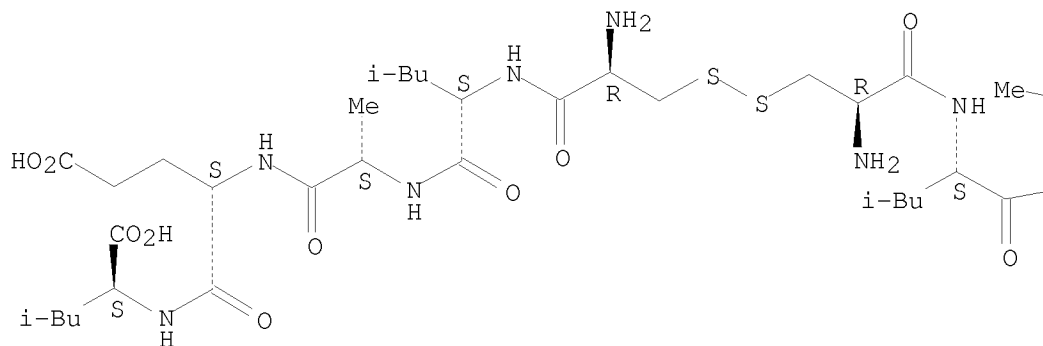
(lactic acid formation by *Lactobacillus casei casei* response to, structure in relation to)

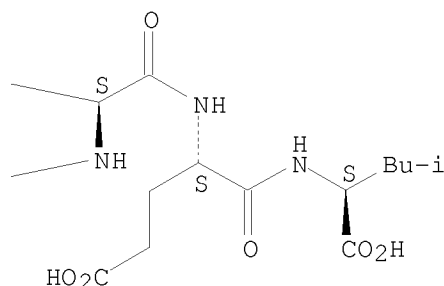
RN 115784-25-3 CAPLUS

CN L-Leucine, L-cysteinyl-L-leucyl-L-alanyl-L- α -glutamyl-, bimol.
(1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

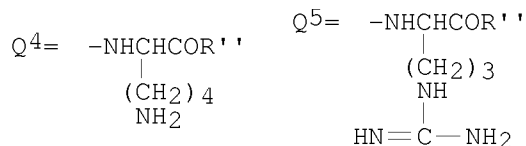
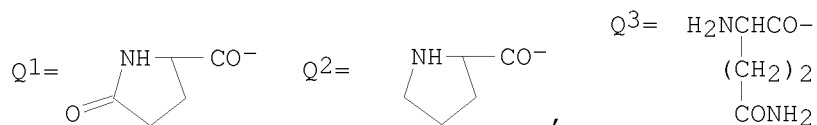
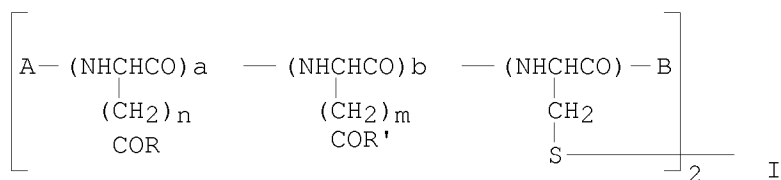
PAGE 1-A





L5 ANSWER 158 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1988:473924 CAPLUS
 DOCUMENT NUMBER: 109:73924
 ORIGINAL REFERENCE NO.: 109:12401a,12404a
 TITLE: Preparation of cysteine-containing peptide dimers as hemopoiesis stimulants
 INVENTOR(S): Laerum, Ole Didrik
 PATENT ASSIGNEE(S): Nycomed A/S, Norway
 SOURCE: Eur. Pat. Appl., 15 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 267741	A1	19880518	EP 1987-309806	19871105
EP 267741	B1	19920624		
R: ES, GR				
WO 8803535	A1	19880519	WO 1987-GB784	19871105
W: AU, DK, FI, GB, JP, NO, US				
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
AU 8781747	A	19880601	AU 1987-81747	19871105
AU 604279	B2	19901213		
EP 330667	A1	19890906	EP 1987-907244	19871105
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
JP 02500517	T	19900222	JP 1987-506666	19871105
AT 77628	T	19920715	AT 1987-309806	19871105
ES 2038675	T3	19930801	ES 1987-309806	19871105
CA 1337407	C	19951024	CA 1987-551089	19871105
ZA 8708349	A	19880727	ZA 1987-8349	19871106
US 4987122	A	19910122	US 1988-206341	19880617
DK 8803698	A	19880704	DK 1988-3698	19880704
DK 171992	B1	19970908		
NO 8803008	A	19880705	NO 1988-3008	19880705
NO 164479	B	19900702		
NO 164479	C	19901010		
FI 8902185	A	19890505	FI 1989-2185	19890505
FI 92209	B	19940630		
FI 92209	C	19941010		
PRIORITY APPLN. INFO.:			GB 1986-26539	A 19861106
			EP 1987-309806	A 19871105
			WO 1987-GB784	A 19871105
OTHER SOURCE(S):			MARPAT 109:73924	
GI				



AB The title compds. (I; R, R', R'' = OH, amino; A = H, Q1, Q2, Q3; B = OH, Q4, Q5; a, b = 0, 1; n, m = 1, 2) were prepared as stimulators of hemopoiesis (no data). (PGlu-Glu-Asp-Cys)₂ was synthesized as the monomer using the solid phase technique with Fmoc-protected amino acids and the protected, resin-bound product was dimerized using 0.1M iodine. The dimer was cleaved from the resin and deprotected using trifluoroacetic acid in CHCl₃.

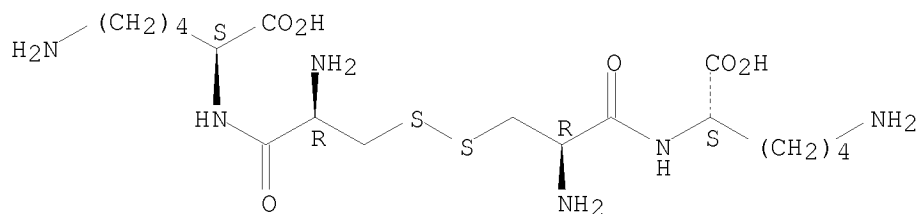
IT 115520-07-5P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as hemopoiesis stimulant)

RN 115520-07-5 CAPLUS

CN L-Lysine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



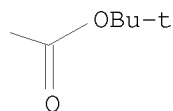
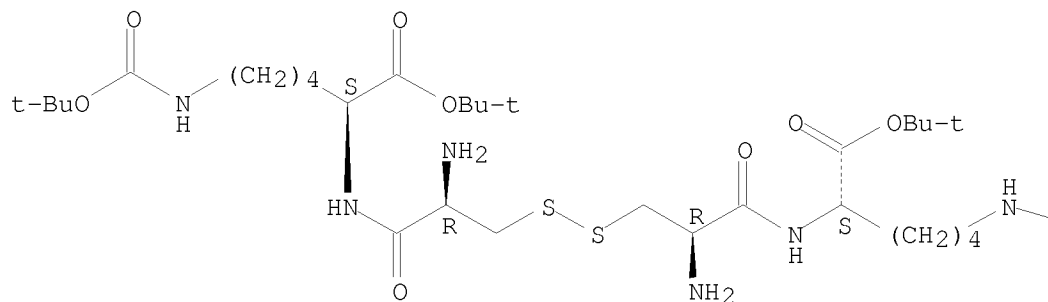
IT 112514-56-4P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as intermediate for hemopoiesis stimulant)

RN 112514-56-4 CAPLUS

CN L-Lysine, L-cysteinyl-N6-[(1,1-dimethylethoxy)carbonyl]-, 1,1-dimethylethyl ester, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 159 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1988:468323 CAPLUS

DOCUMENT NUMBER: 109:68323

ORIGINAL REFERENCE NO.: 109:11345a,11348a

TITLE: Species variations biliary excretion of glutathione-related thiols and methylmercury

AUTHOR(S): Stein, Aron F.; Gregus, Zoltan; Klaassen, Curtis D.

CORPORATE SOURCE: Med. Cent., Univ. Kansas, Kansas City, KS, 66103, USA

SOURCE: Toxicology and Applied Pharmacology (1988), 93(3), 351-9

CODEN: TXAPA9; ISSN: 0041-008X

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The relationship between the biliary excretion of GSH-related thiols and methylmercury in 5 species was studied. The biliary excretion rate of GSH-related thiols and disulfides was 369, 192, 94, 50, and 19 nmol/min/kg for mice, rats, hamsters, guinea pigs, and rabbits, resp. The main thiol in mouse, hamster, and rat bile was GSH, whereas guinea pig and rabbit bile contained mainly cysteinylglycine (Cys-Gly). The larger percentage of Cys-Gly in guinea pig and rabbit bile was correlated with their greater hepatic γ -glutamyltranspeptidase (GGT) activity than that observed in the other species. The biliary excretion rate (nmol/min/kg) of methylmercury was approx. 0.8 in mice, rats, and hamsters compared to significantly lower rates in guinea pigs and rabbits (0.15 and 0.03, resp.). Apparently, the species-specific composition of GSH-related thiols and disulfides in bile is related to species variations in hepatic GGT activity, and the species variation in biliary excretion of GSH-related thiols does not entirely account for the species variation in methylmercury excretion, indicating other factors are also apparently involved in determining the rate of biliary excretion of methylmercury.

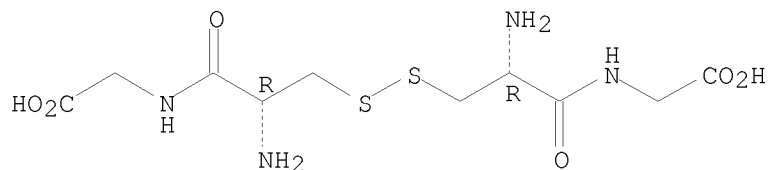
IT 7729-20-6

RL: BIOL (Biological study)

(biliary excretion of, methylmercury and species in relation to)

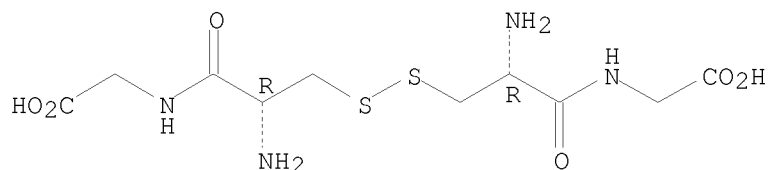
RN 7729-20-6 CAPLUS
CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 160 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1988:447258 CAPLUS
DOCUMENT NUMBER: 109:47258
ORIGINAL REFERENCE NO.: 109:7811a,7814a
TITLE: Complexes of GlyMet and (CysGly)₂ with copper(2+) and palladium(2+) ions
AUTHOR(S): Danaopoulos, Andreas A.; Minakakis, Panagiota; Lapatsanis, Lucas D.; Paraskewas, Spyridon
CORPORATE SOURCE: Fachschaft Chem. (Org. Chem.), Univ. Athen, Athens, 10680, Greece
SOURCE: Chemiker-Zeitung (1987), 111(9), 281-2
CODEN: CMKZAT; ISSN: 0009-2894
DOCUMENT TYPE: Journal
LANGUAGE: German
AB Cu(HGlyMet)₂Cl₂ (I), Pd(HGlyMet)(GlyMet)Cl, Pd(CysGly)₂Cl₂, and CuL₂Cl₂ [II; HGlyMet = glycylmethionine; CysGly = cysteinylglycine; L = cysteinylglycylcysteinylglycine] were prepared and characterized by IR, UV, NMR, and ESR spectra and magnetic moment determination I shows rhombic distortion from octahedral symmetry; II is octahedral.
IT 7729-20-6DP, copper complex
RL: SPN (Synthetic preparation); PREP (Preparation) (preparation and ESR and optical activity of)
RN 7729-20-6 CAPLUS
CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

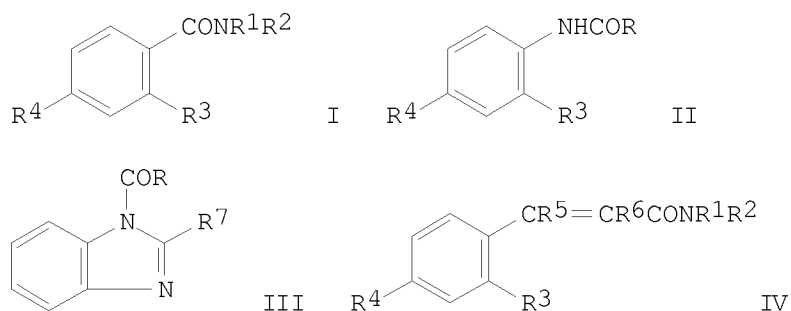
Absolute stereochemistry.



L5 ANSWER 161 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1988:411585 CAPLUS
DOCUMENT NUMBER: 109:11585
ORIGINAL REFERENCE NO.: 109:1981a,1984a
TITLE: Aromatic compounds with amide structure, derivatives of aminobenzoic acids, hydroxybenzoic acids, cinnamic acids, urocanic acids and benzimidazoles, absorbing UV radiations
INVENTOR(S): Robert, Dominique; Jung, Louis
PATENT ASSIGNEE(S): Fr.
SOURCE: Eur. Pat. Appl., 24 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent

LANGUAGE: French
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 235064	A2	19870902	EP 1987-440009	19870213
EP 235064	A3	19880413		
EP 235064	B1	19920617		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
FR 2594332	A1	19870821	FR 1986-2125	19860214
FR 2594332	B1	19881216		
WO 8704923	A1	19870827	WO 1987-FR39	19870213
WO 8704923	A3	19870924		
W: JP, US				
JP 63502509	T	19880922	JP 1987-501279	19870213
AT 77234	T	19920715	AT 1987-440009	19870213
US 5298647	A	19940329	US 1987-123859	19871214
PRIORITY APPLN. INFO.:			FR 1986-2125	A 19860214
			EP 1987-440009	A 19870213
			WO 1987-FR39	W 19870213
OTHER SOURCE(S):	MARPAT 109:11585			
GI				



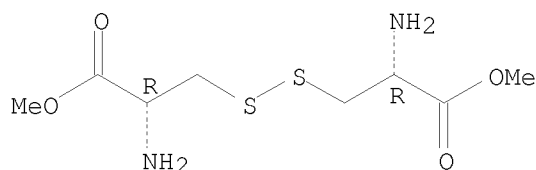
AB The title compds. are prepared as sunscreens. The compds. are the amides I, II, III, IV [R1 = H, alkyl, aryl; R2 = CHYCO2X; X, Y = H, alkyl, aryl, aminoalkyl, aminoaryl, etc.; NR1R2 = urocanic peptide or amino acid radical; R3, R4 = H, OH, NH2, etc.; R = YCHNHX, CH(NHX)(CH2)nSZ, etc.; Z = H, alkyl, aryl; n = 1-6; R7 = alkyl, aryl, aminoalkyl, aminoaryl; R5, R6 = H, alkyl, aryl]. p-Aminobenzoic acid in Et3N-containing C6H6 was heated with L-methionine, to give N-(4-aminobenzoyl)-L-methionine. The compds. (not specified) stimulated melanogenesis in the Keeman tumor line IGR-37, in vitro.

IT 1069-29-0, L-Cystine dimethyl ester
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with imidazolypropanoic acid)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 162 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1988:406946 CAPLUS

DOCUMENT NUMBER: 109:6946

ORIGINAL REFERENCE NO.: 109:1325a,1328a

TITLE: Sulfoxide-directed disulfide bond-forming reaction for the synthesis of cystine peptides

AUTHOR(S): Fujii, Nobutaka; Otaka, Akira; Watanabe, Toshihiro; Arai, Hiromitsu; Funakoshi, Susumu; Bessho, Kiyoshi; Yajima, Haruaki

CORPORATE SOURCE: Fac. Pharm. Sci., Kyoto Univ., Kyoto, 606, Japan

SOURCE: Journal of the Chemical Society, Chemical Communications (1987), (21), 1676-8
CODEN: JCCCAT; ISSN: 0022-4936

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 109:6946

AB Condensation of cysteine sulfoxides Boc-Cys(R)(O)-OH (Boc = Me₃CO₂C; R = 4-MeOC₆H₄CH₂, AcNHCH₂, 1-adamantyl) with cysteine derivs. Z(OMe)-Cys(R₁)-OH [Z(OMe) = 4-MeOC₆H₄CH₂O₂C; R₁ = H, 4-MeOC₆H₄CH₂, 1-adamantyl] in Me₂S and CF₃CO₂H and Me₃SiO₃SCF₃ or HO₃SCF₃ gave cystine in 10-100% yields. Coupling of Z(OMe)-Cys(R)(O)-Ala-NH₂ (R = 4-MeOC₆H₄CH₂) with Z(OMe)-Cys(R)Gly-OCH₂Ph gave the unsym. cystine peptide amide in 87% yield. Similarly, treatment of Boc-Cys(R)(O)-Tyr-Ile-Gln-Asn-Cys(R₁)-Pro-Leu-Gly-NH₂ (R = AcNHCH₂, R₁ = 4-MeOC₆H₄CH₂) with CF₃CO₂H and Me₂S gave 86% oxytocin.

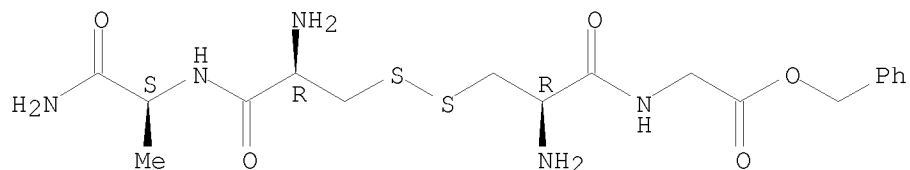
IT 114854-98-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and deprotection of)

RN 114854-98-7 CAPLUS

CN L-Alaninamide, L-cysteiny-, (1→1')-disulfide with
L-cysteinyglycine phenylmethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



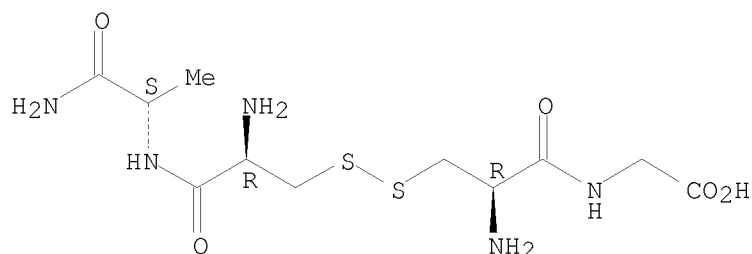
IT 114854-99-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 114854-99-8 CAPLUS

CN L-Alaninamide, L-cysteiny-, (1→1')-disulfide with
L-cysteinyglycine (9CI) (CA INDEX NAME)

Absolute stereochemistry.

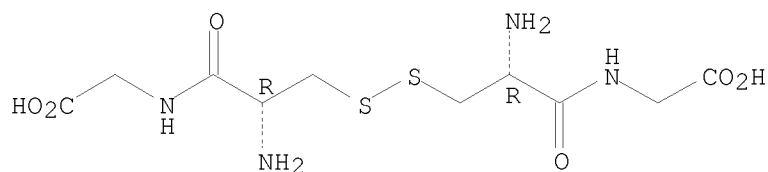


L5 ANSWER 163 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1988:174513 CAPLUS
DOCUMENT NUMBER: 108:174513
ORIGINAL REFERENCE NO.: 108:28571a,28574a
TITLE: Transition metal complexes of amino acids and derivatives containing disulfide bridges
AUTHOR(S): Varnagy, Katalin; Sovago, Imre; Kozlowski, Henryk
CORPORATE SOURCE: Dep. Inorg. Anal. Chem., Lajos Kossuth Univ., Debrecen, 4010, Hung.
SOURCE: Inorganica Chimica Acta (1988), 151(2), 117-23
CODEN: ICHAA3; ISSN: 0020-1693
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The interaction of Co(II), Ni(II), Cu(II), and Zn with D-penicillamine disulfide, oxidized glutathione, and L-cysteinylglycine disulfide were studied by using pH-metric, spectrophotometric, and ESR methods. D-Penicillamine disulfide forms binuclear complexes with all the metal ions studied. The formation of 1:1 complexes is characteristic of oxidized glutathione. L-Cysteinylglycine disulfide behaves like dipeptides, but the presence of 2 sep. peptide moieties also results in the formation of various binuclear complexes. Metal ion-disulfide binding was not observed in any case.
IT 7729-20-6DP, transition metal complexes
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of)
RN 7729-20-6 CAPLUS
CN Glycine, L-cysteinyl-, bimol. (1-1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



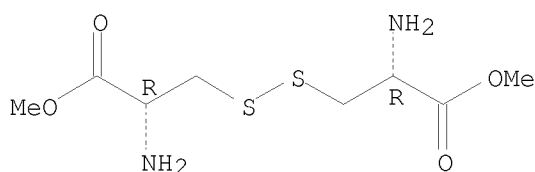
L5 ANSWER 164 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1988:114616 CAPLUS
DOCUMENT NUMBER: 108:114616
ORIGINAL REFERENCE NO.: 108:18773a,18776a
TITLE: Studies of the improvement of antioxidant effect of tocopherols. XII. Synergistic effect on amino acid derivatives
AUTHOR(S): Aoyama, Minoru; Maruyama, Takenori; Kanematsu, Hiromu; Niiya, Isao; Tsukamoto, Masato; Tokairin, Shigeru; Matsumoto, Taro
CORPORATE SOURCE: Other Foods Insp. Found., Japan Inst. Oils Fats, Tokyo, Japan
SOURCE: Yukagaku (1987), 36(9), 662-6
CODEN: YKGKAM; ISSN: 0513-398X
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
AB The synergistic antioxidant effects of a mixture of d-tocopherols (I) and 20 Me esters of amino acids on lard and palm oil were investigated by oven and AOM tests. The solubility of the esters was in most cases <40 ppm. On lard, 14 amino acid derivs. had antioxidant effects according to the oven test, particularly so in the case of Me L-tryptophan (II) and Me lysine (III), ut di-Me L-glutamate (IV) tended to accelerate oxidation. However, such effects were not observed by the AOM test. All the esters except IV

enhanced the antioxidant effect of I according to the oven and AOM tests, and the addition of II, III, Me proline (V), or Me tyrosine (VI) along with I was particularly effective for this. On palm oil, 9 of the esters had antioxidant effects in the oven test. V and II did so markedly, but IV and Me serine tended to accelerate oxidation. With I, 12 esters showed synergistic effects and the addition of V, II, VI, or di-Me cystine along with I was particularly effective. Similar effects were observed in the AOM test.

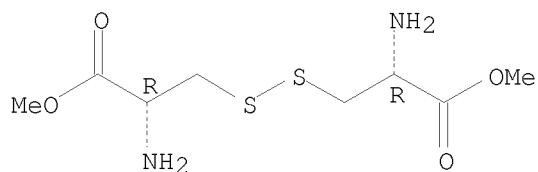
IT 1069-29-0, L-Cystine dimethyl ester
 RL: USES (Uses)
 (tryptophan containing, antioxidants, for lard and palm oil)
 RN 1069-29-0 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 165 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1988:88487 CAPLUS
 DOCUMENT NUMBER: 108:88487
 ORIGINAL REFERENCE NO.: 108:14455a,14458a
 TITLE: The synthesis of N-acetyl-leukotriene E4 and its effects on cardiovascular and respiratory function of the anesthetized pig
 AUTHOR(S): Foster, A.; Fitzsimmons, B.; Letts, L. G.
 CORPORATE SOURCE: Merck Frosst Canada Inc., Pointe Claire-Dorval, QC, H9R 4P8, Can.
 SOURCE: Prostaglandins (1986), 31(6), 1077-86
 CODEN: PRGLBA; ISSN: 0090-6980
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The effects of the putative biliary metabolite of the peptidoleukotrienes, N-acetyl-leukotriene E4 (I) was investigated in the anesthetized pig. The i.v. bolus doses of synthetic I produced minimal respiratory and cardiovascular actions in the pig. I was .apprx.100-fold less active than LTC4. The actions of I were not blocked by pretreatment of the animals with indomethacin (5 mg/kg, i.v.) or with a selective LTD4 antagonist L-649,923 (5 mg/kg plus 2 mg/kg/h, i.v.). Thus, I exerts weak actions in the pig which is consistent with the acetylation process being a mechanism of detoxification.
 IT 32854-09-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (acetylation and reduction of)
 RN 32854-09-4 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.

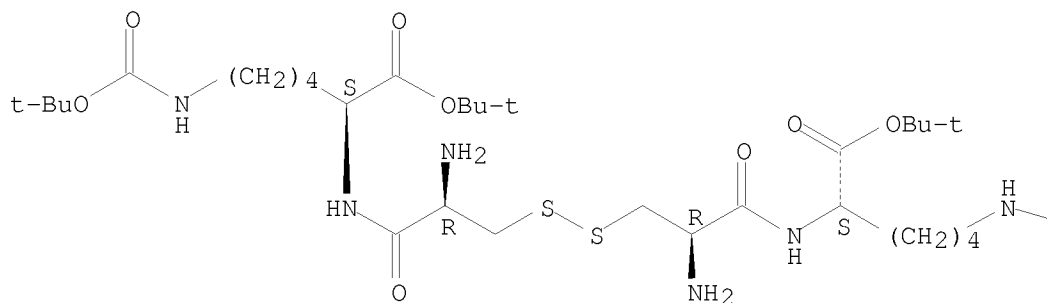


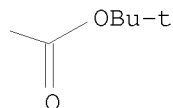
● 2 HCl

L5 ANSWER 166 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1988:49956 CAPLUS
 DOCUMENT NUMBER: 108:49956
 ORIGINAL REFERENCE NO.: 108:8209a,8212a
 TITLE: Hemoregulatory peptide synthesis, purification of tritium labeled peptide and uptake of peptide in hematopoietic tissues in vitro
 AUTHOR(S): Eriksen, Jon Amud; Schanche, Jon Sverre; Hestdal, Kjetil; Jakobsen, Sten Eirik; Tveteraas, Trygve; Johansen, Jon Henrik; Paukovits, Walter R.; Laerum, Ole D.
 CORPORATE SOURCE: Nycomed A/S, Oslo, N-0401, Norway
 SOURCE: Colloque INSERM (1987), 162(Inhib. Hematopoiesis), 51-4
 CODEN: CINMDE; ISSN: 0768-3154
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The hemoregulatory peptide pGlu-Glu-Asp-Cys-Lys was labeled with tritium in the pyroglutamyl residue and its uptake was followed in mouse bone marrow, thymus, and spleen cells. Only bone marrow cells incorporated significant amts. of the hemoregulatory peptide.
 IT 112514-56-4P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction of, with protected aspartic acid)
 RN 112514-56-4 CAPLUS
 CN L-Lysine, L-cysteinyl-N6-[(1,1-dimethylethoxy)carbonyl]-, 1,1-dimethylethyl ester, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

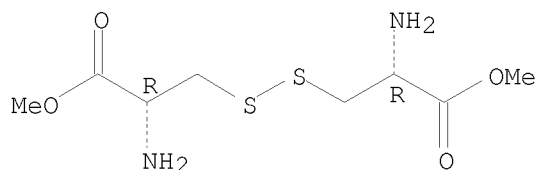




L5 ANSWER 167 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1988:36847 CAPLUS
 DOCUMENT NUMBER: 108:36847
 ORIGINAL REFERENCE NO.: 108:6153a,6154a
 TITLE: Reduction of specific disulfides with titanium(III) chloride
 AUTHOR(S): Akers, Hugh A.; Vang, Meng C.; Updike, Tracie D.
 CORPORATE SOURCE: Dep. Chem., Lamar Univ., Beaumont, TX, 77710, USA
 SOURCE: Canadian Journal of Chemistry (1987), 65(6), 1364-6
 CODEN: CJCHAG; ISSN: 0008-4042
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 108:36847

AB The reaction between TiCl_3 and disulfides was investigated. Aryl and alkyl disulfides did not react, while heterocyclic aromatic disulfides with a nitrogen α to the sulfur were reduced to the corresponding thiols. The redns. occurred only in the presence of citrate and required 2 mol Ti(III) per mol disulfide.
 IT 1069-29-0, L-Cystine dimethyl ester
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (attempted reduction of, with titanium trichloride)
 RN 1069-29-0 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 168 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1988:20079 CAPLUS
 DOCUMENT NUMBER: 108:20079
 ORIGINAL REFERENCE NO.: 108:3389a,3392a
 TITLE: Effect of cystine dimethylester on renal solute handling and isolated renal tubule transport in the rat: a new model of the Fanconi Syndrome
 AUTHOR(S): Foreman, John W.; Bowring, Margaret Ann; Lee, Judithann; States, Beatrice; Segal, Stanton
 CORPORATE SOURCE: Div. Biochem. Dev. Mol. Dis., Children's Hosp. Philadelphia, Philadelphia, PA, 19104, USA
 SOURCE: Metabolism, Clinical and Experimental (1987), 36(12), 1185-91

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The effect of cystine dimethylester on the renal handling of phosphate, glucose, α -amino N, amino acids, and protein in vivo and on the uptake of lysine, glycine, taurine, and α -Me glucoside by isolated renal tubules in vitro was studied in adult male rats. Parenteral administration of 400 μ mol twice a day for 4 days of cystine dimethylester led to an increased urine volume, and excretion of phosphate, glucose, α -amino N, and the amino acids glutamine, proline, alanine, 1/2 cystine, ornithine, lysine, histidine, and glycine. Cystine dimethylester treatment did not affect the creatine clearance nor were any renal anat. abnormalities noted. Intracellular cysteine, but not cystine, was increased in the kidney after the 4 days of treatment. Pre-incubation of isolated renal tubules with 2 mmol/L cystine dimethylester for 10 min markedly inhibited the uptake of lysine, glycine, taurine, and α -Me glucoside. Incubation with 2 mmol/L cystine dimethylester for 10 min did not affect the ability of the renal tubule to exclude trypan blue dye, although longer incubation times did lead to significant staining. The intracellular cystine concentration of the renal tubule did rise after incubation

with cystine dimethylester, a biochem. correlate of the human disease cystinosis. Thus, cystine dimethylester can induce an exptl. form of the Fanconi syndrome both in vivo and in vitro and offers a new model for investigating the mechanisms underlying this enigmatic disorder.

IT 1069-29-0, Cystine dimethylester

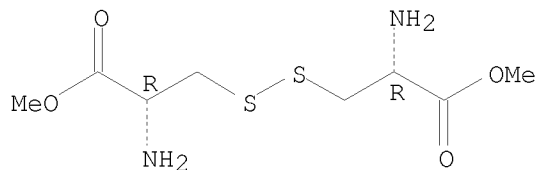
RL: BIOL (Biological study)

(Fanconi's syndrome model from, in rats)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 169 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1988:19868 CAPLUS

DOCUMENT NUMBER: 108:19868

ORIGINAL REFERENCE NO.: 108:3349a,3352a

TITLE: Dopaquinone addition products in cultured human melanoma cells

AUTHOR(S): Carstam, Ragnar; Hansson, Christer; Lindblad, Christina; Rorsman, Hans; Rosengren, Evald

CORPORATE SOURCE: Dep. Dermatol., Univ. Lund, Lund, Swed.

SOURCE: Acta Dermato-Venereologica (1987), 67(2), 100-5

CODEN: ADVEA4; ISSN: 0001-5555

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The concns. of dopa, cysteinyl dopas, 5-S-glutathionyl dopa, γ -glutamyl-5-S-cysteinyl dopa, and 5-S-cysteinylglycinedopa, were analyzed in homogenates of cultured human melanoma cells and in culture media. Cysteinyl dopas were the major catechols in the cells, with a molar concentration >100 times that of dopa. 5-S-Glutathionyl dopa was found in the same amount of dopa, whereas the quantity of 5-S-cysteinylglycinedopa was one order of magnitude less. γ -Glutamyl-5-S-cysteinyl dopa was not present in detectable amts. In the medium the concns. of dopa,

5-S-cysteinylglycinedopa, and 5-S-glutathionyldopa were about one half of those in the cells, whereas the concentration of cysteinyl dopas was .apprx.2%. The ratio between 2-S-cysteinyl dopa and 5-S-cysteinyl dopa when incubating dopa and cysteine with tyrosinase was identical with the ratio between the analogously synthesized isomers of glutathionyldopa. Consequently, from the calcn. of these ratios in cells and media, one cannot deduce whether cysteinyl dopas arise from the direct addition of cysteine to dopaquinone, or from degradation of glutathionyldopa. Oxidation of 5-S-glutathionyldopa gives

a red chromatophore with maximum absorption at 480 nm which develops into a black pigment.

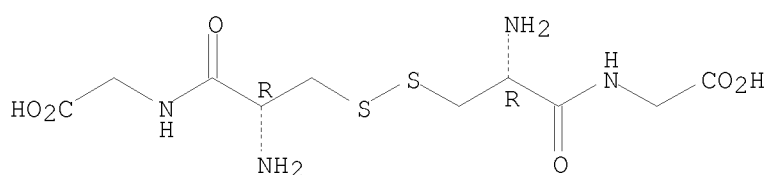
IT 7729-20-6

RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation of)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 170 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1987:598880 CAPLUS

DOCUMENT NUMBER: 107:198880

ORIGINAL REFERENCE NO.: 107:31927a, 31930a

TITLE: Elucidation of a side reaction during acylation of primary amines with fatty acid chlorides

AUTHOR(S): Metzger, Joerg; Jung, Guenther

CORPORATE SOURCE: Inst. Org. Chem., Univ. Tuebingen, Tuebingen, D-7400, Fed. Rep. Ger.

SOURCE: Liebigs Annalen der Chemie (1987), (10), 895-9

CODEN: LACHDL; ISSN: 0170-2041

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 107:198880

AB In the acylation of L-cystine di-tert-Bu ester with palmitoyl chloride, the formation of Me(CH2)14CONHCH(CO2CMe3)CH2SSCH2CH(CO2CMe3)NHCOCH[(CH2)13Me]CO(CH2)14Me as a byproduct was shown.

IT 62574-13-4

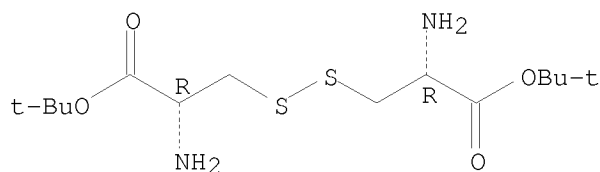
RL: RCT (Reactant); RACT (Reactant or reagent)

(acylation of, with palmitoyl chloride, isolation of byproduct in)

RN 62574-13-4 CAPLUS

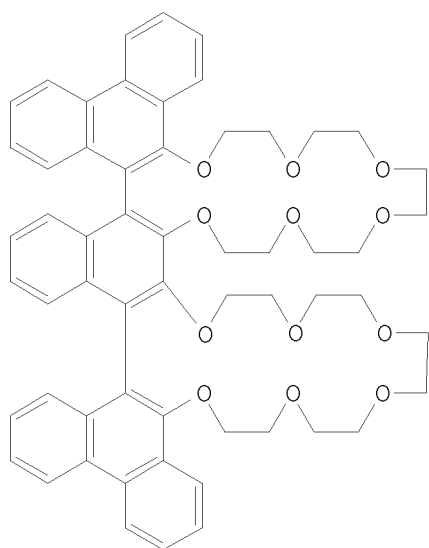
CN L-Cystine, 1,1'-bis(1,1-dimethylethyl) ester (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



L5 ANSWER 171 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1987:598284 CAPLUS
 DOCUMENT NUMBER: 107:198284
 ORIGINAL REFERENCE NO.: 107:31815a,31818a
 TITLE: Synthesis and chiral recognition of an optically active bis-crown ether incorporating a diphenanthrylnaphthalene moiety as the chiral center
 AUTHOR(S): Yamamoto, Koji; Yumioka, Hiroya; Okamoto, Yoshio; Chikamatsu, Hiroaki
 CORPORATE SOURCE: Fac. Eng. Sci., Osaka Univ., Toyonaka, 560, Japan
 SOURCE: Journal of the Chemical Society, Chemical Communications (1987), (3), 168-9
 CODEN: JCCCAT; ISSN: 0022-4936
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 107:198284
 GI



I

AB A novel optically active double-layered bis-crown ether (-)-(S,S)-I with a diphenanthrylnaphthalene moiety as the chiral center was prepared, and examination of its chiral recognition behavior showed that I has a high enantiomer selectivity for 1,6-diphenylhexamethylene-1,6-diamine.

IT 110970-86-0

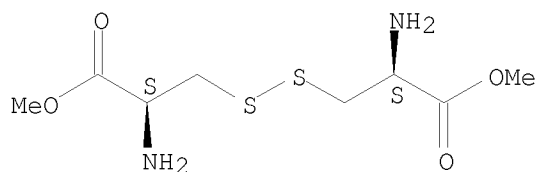
RL: PROC (Process)

(resolution of, by diphenanthrylnaphthalene bis-crown ether)

RN 110970-86-0 CAPLUS

CN Cystine, dimethyl ester, dihydrochloride (CA INDEX NAME)

Relative stereochemistry.



L5 ANSWER 172 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1987:592422 CAPLUS

DOCUMENT NUMBER: 107:192422

ORIGINAL REFERENCE NO.: 107:30741a,30744a

TITLE: Effect of inhibition of γ -glutamyltranspeptidase on biliary and urinary excretion of glutathione-derived thiols and methylmercury

AUTHOR(S): Gregus, Zoltan; Stein, Aron F.; Klaassen, Curtis D.

CORPORATE SOURCE: Med. Cent., Univ. Kansas, Kansas City, KS, 66103, USA

SOURCE: Journal of Pharmacology and Experimental Therapeutics (1987), 242(1), 27-32

CODEN: JPETAB; ISSN: 0022-3565

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Acivicin (AT-125; 6.25-200 μ mol/kg, i.v.) inhibited hepatic, biliary, and renal γ -glutamyltranspeptidase (GGT) activity up to 88, 99, and 97%, resp., in 4-wk-old rats. This inhibition of GGT by acivicin resulted in a 10-12-fold increase in the biliary excretion of GSH and GSSG. Because the biliary excretion of cysteinylglycine (Cys-Gly), Cys-Gly disulfide, cysteine (Cys), and cystine concomitantly decreased (63-99%), the biliary excretion rate of total glutathione-derived thiols and disulfides did not change. In contrast, acivicin treatment dramatically elevated the urinary excretion rate of glutathione-derived thiols in a dose-dependent fashion, resulting in a 390-fold increase at the highest dosage. This mainly originated from enhancement of urinary excretion of GSH (\leq 7200-fold), although the excretion of Cys and Cys-Gly into urine was also increased. Acivicin treatment did not affect hepatic and renal levels of GSH but, at high dosages, reduced the concentration of Cys in these organs. GSH and GSSG concns. in serum were increased, whereas cystine was diminished in acivicin-treated rats. Inhibition of GGT by acivicin (100 μ mol/kg i.v.) failed to influence the biliary excretion of methylmercury but increased urinary excretion 34-fold. Even though the urinary thiol excretion was much higher than the biliary thiol excretion in the acivicin-treated rats, methylmercury was preferentially excreted into bile rather than urine, indicating the importance of the liver as an excretory organ for methylmercury. Acivicin did not alter the concentration of methylmercury in liver or kidney but slightly decreased its concentration in brain. Thus, GGT in rat liver does not play a significant role, as it does in the kidney, in determining excretion rates of thiols, although it markedly modifies thiol composition in bile. Furthermore, the biliary excretion rate of methylmercury is related to the excretion rate of total glutathione-derived thiols rather than that of the unhydrolyzed GSH.

IT 7729-20-6

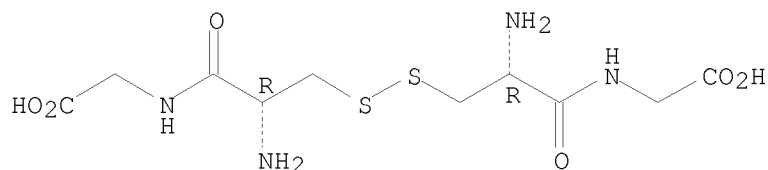
RL: BIOL (Biological study)

(biliary and urinary excretion of, hepatic and renal glutamyltranspeptidase activity in relation to)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 173 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1987:571510 CAPLUS

DOCUMENT NUMBER: 107:171510
ORIGINAL REFERENCE NO.: 107:27459a,27462a
TITLE: Creatine kinase stabilization
INVENTOR(S): Rehner, Helmut; Bartl, Knut; Stegmueller, Peter;
Tischer, Wilhelm; Rollinger, Sibylle
PATENT ASSIGNEE(S): Boehringer Mannheim G.m.b.H., Fed. Rep. Ger.
SOURCE: Ger. Offen., 13 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3540076	A1	19870514	DE 1985-3540076	19851112
EP 222380	A2	19870520	EP 1986-115699	19861112
EP 222380	A3	19890104		
EP 222380	B1	19930317		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
JP 62118887	A	19870530	JP 1986-267907	19861112
JP 03035920	B	19910529		
AT 87030	T	19930415	AT 1986-115699	19861112
ES 2054609	T3	19940816	ES 1986-115699	19861112
US 4931392	A	19900605	US 1989-355039	19890515

PRIORITY APPLN. INFO.:
DE 1985-3540076 A 19851112
US 1986-924698 B1 19861029
EP 1986-115699 A 19861112

AB Creatine kinase (I) is stabilized in solution by the consecutive addition of disulfide (e.g. cystine, homocystine, cystine Me ester, cystamine, and/or a thiosulfonate [methanethiosulfonic acid S-Me ester]) and if necessary a water-soluble activated carbohydrate (e.g. dextran). For example, I 164 mg/mL in carbonate buffer was stabilized in 2 mM cystine, followed by 6 g dextran T40/40 mL water. Addnl. 2,4,6-trichloro-1,3,5-triazine was added. The stability of I in the presence of cystine and dextran at 35° was increased over that of the control.

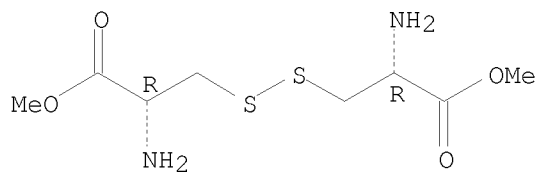
IT 1069-29-0

RL: BIOL (Biological study)
(creatine kinase stabilization by dextran and)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 174 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1987:531534 CAPLUS

DOCUMENT NUMBER: 107:131534

ORIGINAL REFERENCE NO.: 107:21223a,21226a

TITLE: Age-dependent biliary excretion of glutathione-related thiols in rats: role of γ -glutamyltransferase

AUTHOR(S): Gregus, Zoltan; Stein, Aron F.; Klaassen, Curtis D.

CORPORATE SOURCE: Med. Cent., Univ. Kansas, Kansas City, KS, 66103, USA

SOURCE: American Journal of Physiology (1987), 253(1, Pt. 1),
G86-G92

CODEN: AJPHAP; ISSN: 0002-9513

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The role of γ -glutamyltransferase (GGT) in the biliary excretion of GSH was studied in rats during postnatal development. Between 2 and 10 wk of age the biliary excretion of GSH-related S increased 9-fold. During this period, alterations were observed in both hepatic GGT and the composition of

GSH-related thiols and disulfides in bile. For instance, between 3 and 4 wk of age, GGT activity and the biliary excretion of GSH hydrolysis products cysteinyl-glycine (Cys-Gly) and cysteine (Cys), increased markedly, and the latter became the predominant SH compds. in bile. However by 10 wk of age, the excretion rate of GSH increased and exceeded the rate of excretion of Cys-Gly and Cys. The parallelism between hepatic GGT activity and the biliary excretion of GSH hydrolysis products during development suggests a role for GGT in the formation of biliary Cys-Gly and Cys. Furthermore, in 4-wk-old rats, inhibition of hepatic GGT by acivicin markedly decreased the biliary excretion of Cys-Gly and Cys and increased that of GS without influencing the excretion of total GS-related S in bile. The biliary excretion of GS-related thiols was less responsive to acivicin in 2- and 7-to-10-wk-old rats, suggesting that GGT plays a smaller role in influencing biliary thiol composition at those ages. In summary, GSH transported into bile is hydrolyzed in an age-dependent manner, however, the GGT-initiated hydrolysis of GSH does not affect the biliary excretion of total thiols in rats.

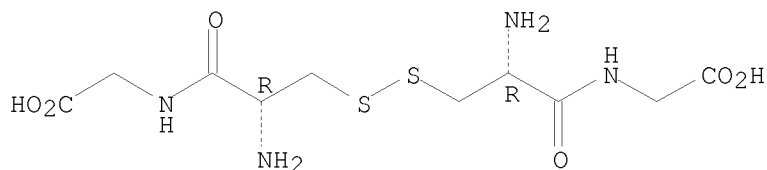
IT 7729-20-6, Cys-Gly disulfide

RL: BIOL (Biological study)
(of bile, in development)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 175 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1987:456363 CAPLUS

DOCUMENT NUMBER: 107:56363

ORIGINAL REFERENCE NO.: 107:9327a,9330a

TITLE: Role of dehydropeptidase-I in the metabolism of glutathione and its conjugates in the rat kidney

AUTHOR(S): Hirota, Takashi; Nishikawa, Yuko; Komai, Toru; Igarashi, Takashi; Kitagawa, Haruo

CORPORATE SOURCE: Anal. Metab. Res. Lab., Sankyo Co., Ltd., Tokyo, 140, Japan

SOURCE: Research Communications in Chemical Pathology and Pharmacology (1987), 56(2), 235-42

CODEN: RCOCB8; ISSN: 0034-5164

DOCUMENT TYPE: Journal

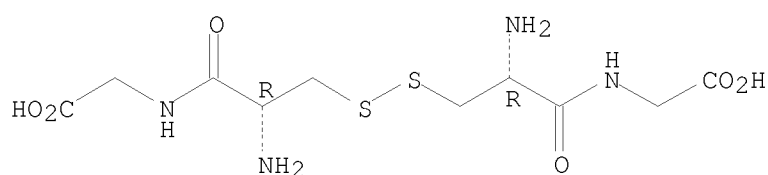
LANGUAGE: English

AB [14C]N-Ethylmaleimide-S-cysteinylglycine was used to investigate the role of dehydropeptidase-I in the metabolism of glutathione conjugates. The dipeptide was rapidly hydrolyzed to [14C]N-ethylmaleimide-S-cysteine in isolated rat renal cells, and subsequently acetylated to

[14C]N-ethylmaleimide-S-N-acetylcysteine. Cilastatin, a specific inhibitor of dehydropeptidase-I, strongly inhibited the hydrolysis of the dipeptide by the isolated cells. In rat kidney homogenates, the marked inhibitory effect of cilastatin was also observed on the hydrolysis of cystinyl-bis-glycine and leukotriene D₄, which are dipeptide intermediates in the biotransformation of GSSG and endogenous glutathione conjugate, resp. In contrast, the inhibitory effect of bestatin, a potent inhibitor of aminopeptidase-M, was much smaller than that of cilastatin on the hydrolysis of these dipeptides by the renal cells and homogenates. Apparently, dehydropeptidase-I plays a more important role in the metabolism of glutathione and its conjugates than aminopeptidase-M does.

IT 7729-20-6
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (hydrolysis of, by kidney, dehydropeptidase-I in)
 RN 7729-20-6 CAPLUS
 CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 176 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1987:435337 CAPLUS

DOCUMENT NUMBER: 107:35337

ORIGINAL REFERENCE NO.: 107:5839a,5842a

TITLE: Interchange reaction of disulfides and denaturation of oxytocin by the copper(II)/ascorbic acid/oxygen system

AUTHOR(S): Inoue, Hideshi; Hirobe, Masaaki

CORPORATE SOURCE: Fac. Pharm. Sci., Univ. Tokyo, Tokyo, 113, Japan

SOURCE: Biochemical and Biophysical Research Communications (1987), 145(1), 596-603

CODEN: BBRCA9; ISSN: 0006-291X

DOCUMENT TYPE: Journal

LANGUAGE: English

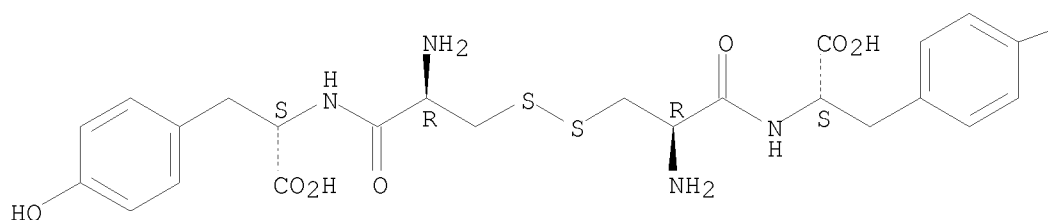
AB The interchange reaction of disulfides was caused by the Cu(II)/ascorbic acid/O₂ system. The incubation of 2 sym. disulfides, L-cystinyl-(L-Phe)₂ (PP) and L-cystinyl-L-Tyr₂ (TT), with L-ascorbic acid and CuSO₄ in K phosphate buffer (pH 7.2, 50 mM) resulted in the formation of an asym. disulfide, L-Cys-L-Phe-L-Tyr (PT), and the final ratio of PP:PT:TT was 1:2:1. As the reaction was inhibited by catalase and DMSO only at the initial time, hydroxyl radical generated by the Cu(II)/ascorbic acid/O₂ system seemed to be responsible for the initiation of the reaction. Oxytocin and insulin were denatured by this system, and catalase and DMSO similarly inhibited these denaturations. As the composition of amino acids was unchanged after the reaction, hydroxyl radical was thought to cause the cleavage and/or interchange reaction of disulfides to denature the peptides.

IT 7369-94-0, L-Cystinylbis-L-tyrosine
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (exchange reaction of, with cystinylbis(phenylalanine) in presence of ascorbate and copper and oxygen)

RN 7369-94-0 CAPLUS

CN L-Tyrosine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

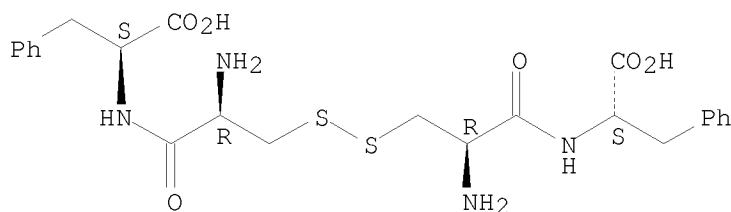
Absolute stereochemistry.



—OH

IT 62130-80-7
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (exchange reaction of, with cystinylbis(tyrosine), in presence of
 ascorbate and copper and oxygen)
 RN 62130-80-7 CAPLUS
 CN L-Phenylalanine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA
 INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 177 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1987:423680 CAPLUS
 DOCUMENT NUMBER: 107:23680
 ORIGINAL REFERENCE NO.: 107:4023a,4026a
 TITLE: New methods and reagents in organic synthesis. 64.
 Total synthesis of ulithiacyclamide, a strong
 cytotoxic cyclic peptide from marine tunicates
 AUTHOR(S): Kato, Shinji; Hamada, Yasumasa; Shioiri, Takayuki
 CORPORATE SOURCE: Fac. Pharm. Sci., Nagoya City Univ., Nagoya, 467,
 Japan
 SOURCE: Tetrahedron Letters (1986), 27(23), 2653-6
 CODEN: TELEAY; ISSN: 0040-4039
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 107:23680
 GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Ulithiacyclamide (I) was prepared by introducing oxazoline rings into cyclic
 peptide II via treatment with SOCl₂ in CH₂Cl₂. II was prepared by the

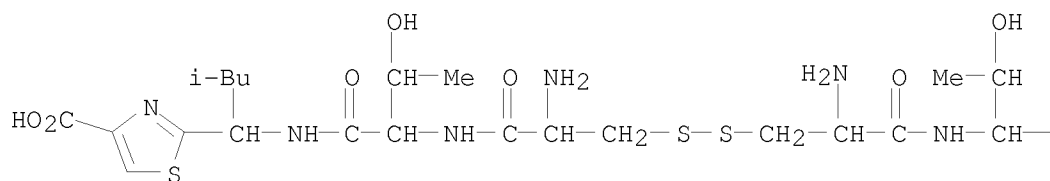
cyclodimerization of H-Cys(Acm)-aThr-D-(leu)Thz-OH (III, Acm = CH₂NHAc) by DPPA followed by disulfide bond formation with I₂/MeOH. II was also prepared from cystine peptide IV (Boc = Me₃CO₂C) via deblocking by saponification and CF₃CO₂H followed by double cyclization mediated by DPPA. III was prepared from Boc-D-(Leu)Thz-OMe via stepwise coupling mediated by DEPC.

IT 108807-50-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and cyclization of)

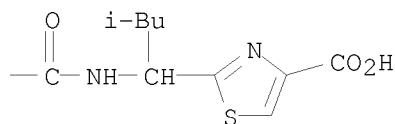
RN 108807-50-7 CAPLUS

CN L-Allothreoninamide, L-cysteinyl-N-[(1R)-1-(4-carboxy-2-thiazolyl)-3-methylbutyl]-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



L5 ANSWER 178 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1987:214326 CAPLUS

DOCUMENT NUMBER: 106:214326

ORIGINAL REFERENCE NO.: 106:34801a, 34804a

TITLE: Mycoloyl peptide and other lipopeptide adjuvants from higher aldoketene dimers

AUTHOR(S): Metzger, Joerg; Jung, Guenther

CORPORATE SOURCE: Inst. Org. Chem., Univ. Tuebingen, Tuebingen, D-7400, Fed. Rep. Ger.

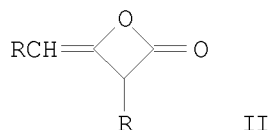
SOURCE: Angewandte Chemie (1987), 99(4), 343-5
 CODEN: ANCEAD; ISSN: 0044-8249

DOCUMENT TYPE: Journal

LANGUAGE: German

OTHER SOURCE(S): CASREACT 106:214326

GI

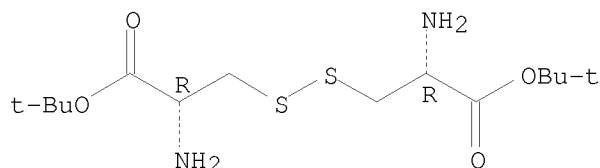


AB RCH₂COCHRCO-X-OCMe₃ (I; R = m-C₁₆H₃₃; X = Gly, Ala, Ser, Phe, etc.) were

prepared by treating aldoketene dimer II with H-X-OCMe₃ in the presence of DMAP. I were reduced by NaBH₄ to give the corresponding RCH₂CH(OH)CHRCO-X-OCMe₃. Mitogenic activities of related lipopeptides are given.

IT 62574-13-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with hexadecyl aldoketene dimer)
RN 62574-13-4 CAPLUS
CN L-Cystine, 1,1'-bis(1,1-dimethylethyl) ester (CA INDEX NAME)

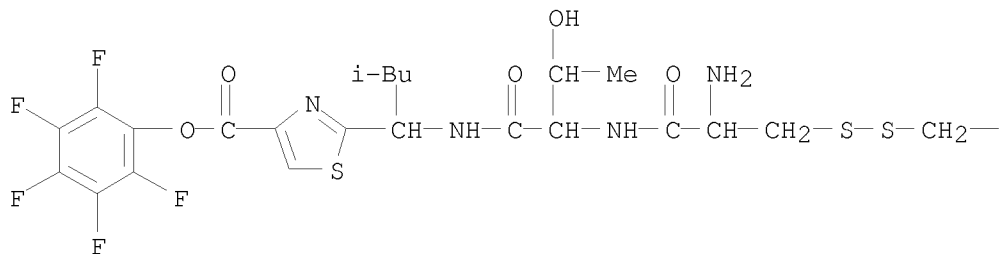
Absolute stereochemistry. Rotation (-).



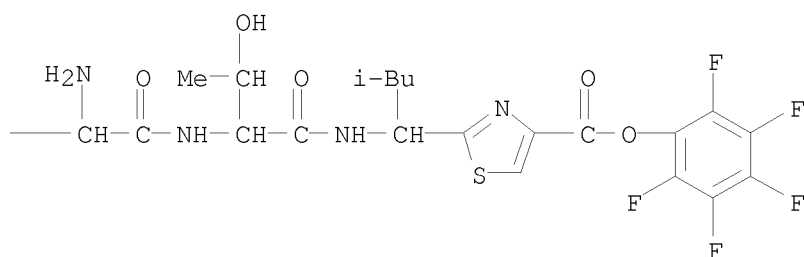
L5 ANSWER 179 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1987:176850 CAPLUS
DOCUMENT NUMBER: 106:176850
ORIGINAL REFERENCE NO.: 106:28728h,28729a
TITLE: Amino acids and peptides. 61. Synthesis of
biologically active cyclopeptides. 11. Total synthesis
of ulithiacyclamide
AUTHOR(S): Schmidt, U.; Weller, D.
CORPORATE SOURCE: Inst. Org. Chem. Biochem. Isotopenforsch., Univ.
Stuttgart, Stuttgart, D-7000/80, Fed. Rep. Ger.
SOURCE: Tetrahedron Letters (1986), 27(30), 3495-6
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 106:176850
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The total synthesis of ulithiacyclamide (I) was achieved by the two-fold ring closure of bifunctional pentafluorophenyl ester II followed by cyclizing the threonine residues of the resulting cyclic peptide III with SOCl₂. II was prepared from fragments IV, V, and [Me₃CO₂CNHCH(CO₂H)CH₂S]₂.
IT 105637-43-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as intermediate for ulithiacyclamide)
RN 105637-43-2 CAPLUS
CN L-Allothreoninamide, L-cysteiny-N-[(1R)-3-methyl-1-[4-[(pentafluorophenoxy)carbonyl]-2-thiazolyl]butyl]-, bimol. (1→1')-disulfide, dihydrochloride (9CI) (CA INDEX NAME)



● 2 HCl



L5 ANSWER 180 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1987:171220 CAPLUS

DOCUMENT NUMBER: 106:171220

ORIGINAL REFERENCE NO.: 106:27709a, 27712a

TITLE: Unpaired electron migration between aromatic and sulfur peptide units

AUTHOR(S): Pruetz, Walter A.; Butler, John; Land, Edward J.; Swallow, A. John

CORPORATE SOURCE: Inst. Biophys. Strahlenbiol., Univ. Freiburg, Freiburg, D-7800, Fed. Rep. Ger.

SOURCE: Free Radical Research Communications (1986), 2(1-2), 69-75

CODEN: FRRCEX; ISSN: 8755-0199

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Cysteine thiyl radicals (Cys/S•) were capable of 1-electron oxidation of tyrosine (Tyr). Equilibration occurred, using Cys and Gly-Tyr, with an equilibrium constant of $K_5 = 20$ at pH 9.15, according to the reaction: (E) Cys/S• + Tyr \rightleftharpoons Cys + Tyr/O•. Hence the reduction potentials (E) of these couples differ at pH 9.15 by $E(\text{Cys/S}\bullet, \text{Cys}) - E(\text{Tyr/O}\bullet, \text{Tyr}) = 80$ mV. Oxidation of Trp-Gly by Cys/S• was not detectable at pH 7-12. The methionyl radical cation (Met/S•N), formed via •OH-attack on Met-Gly, reacts with Trp-Gly to generate the indolyl radical (Trp/N•). New results on intramol. Trp/N• \rightarrow Tyr/O• transitions indicate that the reaction requires direct contact between the 2 redox centers. Various possible pathways for migration of unpaired electrons between peptide units are compiled in a scheme.

IT 7729-20-6

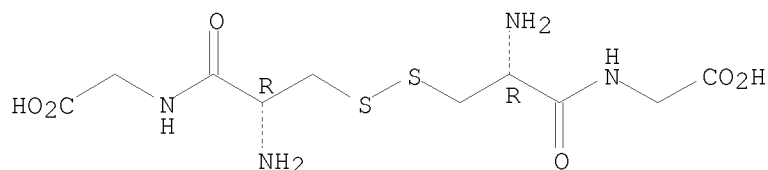
RL: BIOL (Biological study)

(electron exchange to glycyl-tyrosine from, cysteine thiyl radical formation in, kinetics in relation to)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 181 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1987:80485 CAPLUS

DOCUMENT NUMBER: 106:80485

ORIGINAL REFERENCE NO.: 106:13137a,13140a

TITLE: The nonenzymic oxidation of glutathione in the presence of plasmalike concentrations of disulfides and copper ions

AUTHOR(S): Busse, Dietrich; Pohl, Barbara; Helbig, Inge

CORPORATE SOURCE: Dep. Cell Physiol., Ruhr-Univ., Bochum, D-463, Fed. Rep. Ger.

SOURCE: Metabolism, Clinical and Experimental (1987), 36(2), 110-14

CODEN: METAAJ; ISSN: 0026-0495

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The oxidation of GSH catalyzed by a combination of low concns. of disulfides and Cu and Fe ions (as they occur in the blood plasma) was investigated and compared with data obtained in vivo studies. At pH 7.4 and 37° oxidation of GSH (3 mM) in a solution saturated with O could be induced from 0 to 3, 5, 10, 21 nmol/min/mL by the addition of 0.1, 1.0, 10, and 100 μM CuCl₂, resp. The presence of 50 μM cystinylbisglycine as an addnl. component increased the rate of oxidation by 2-3-fold. Cystine was only .apprx.1/3 as active as cystinylbisglycine, and trans-4,5-dihydroxy-1,2-dithiane, the disulfide derivative of dithiothreitol, was even less effective in propagating GSH oxidation. FeCl₂ in combination with the disulfides was 30-fold less active than Cu as a catalyst. With plasmalike concns. of the reactants, a rate of GSH oxidation of 0.2-0.8 nmol/min/mL, depending on the availability of free plasma Cu, could be approximated. This rate corresponds to 8-30% of total plasma GSH oxidation determined previously.

IT 7729-20-6

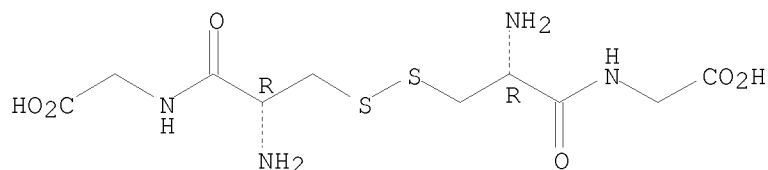
RL: BIOL (Biological study)

(glutathione nonenzymic oxidation by copper and, blood plasma in relation to)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 182 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1987:50604 CAPLUS

DOCUMENT NUMBER: 106:50604
 ORIGINAL REFERENCE NO.: 106:8403a,8406a
 TITLE: Electrophilic sulfur transfer reactions in organic synthesis. Preparation of a diastereomer of the key macrocyclic component of griseoviridin
 AUTHOR(S): Liu, Li; Tanke, Robin S.; Miller, Marvin J.
 CORPORATE SOURCE: Dep. Chem., Univ. Notre Dame, Notre Dame, IN, 46556, USA
 SOURCE: Journal of Organic Chemistry (1986), 51(26), 5332-7
 CODEN: JOCEAH; ISSN: 0022-3263
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 106:50604
 GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Macrocyclic L-cysteine derivative I (Z = CO₂CH₂Ph), a diastereoisomer of a key component of griseoviridin, was prepared via an electrophilic sulfur transfer reaction. Thus, the reaction of hexanoate II with L-cysteine III gave sulfide IV, which was converted into dehydro compound V in several steps. V was cyclized by Ph₃P/DEAD to give I.

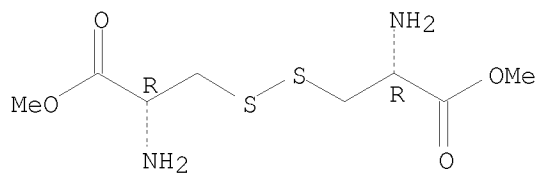
IT 32854-09-4

RL: RCT (Reactant); RACT (Reactant or reagent)
 (benzyloxycarbonylation of)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

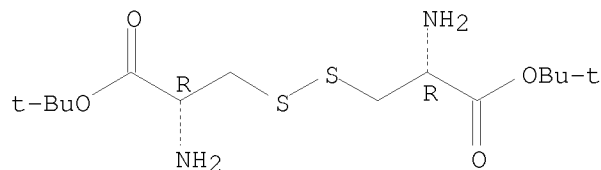
IT 62574-13-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and benzyloxycarbonylation of)

RN 62574-13-4 CAPLUS

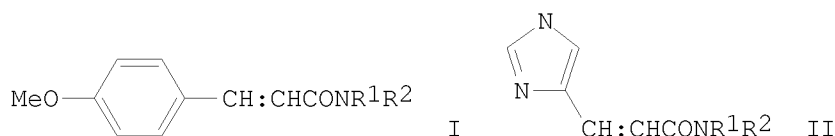
CN L-Cystine, 1,1'-bis(1,1-dimethylethyl) ester (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



L5 ANSWER 183 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1987:23102 CAPLUS
 DOCUMENT NUMBER: 106:23102
 ORIGINAL REFERENCE NO.: 106:3857a,3860a
 TITLE: Amides of p-methoxycinnamic and urocanic acid and their utilization as sunscreens.
 INVENTOR(S): Jung, Louis; Robert, Dominique
 PATENT ASSIGNEE(S): Universite Louis Pasteur de Strasbourg, Fr.
 SOURCE: PCT Int. Appl., 28 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: French
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 8605783	A1	19861009	WO 1986-FR108	19860328
W: JP, US				
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
FR 2579461	A1	19861003	FR 1985-4898	19850328
FR 2579461	B1	19880826		
EP 218622	A1	19870422	EP 1986-901914	19860328
EP 218622	B1	19910710		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
JP 62502749	T	19871022	JP 1986-501945	19860328
AT 65078	T	19910715	AT 1986-901914	19860328
US 4931471	A	19900605	US 1988-252655	19881003
PRIORITY APPLN. INFO.:			FR 1985-4898	A 19850328
			EP 1986-901914	A 19860328
			WO 1986-FR108	W 19860328
			US 1986-939119	B1 19861119
OTHER SOURCE(S):	CASREACT 106:23102; MARPAT 106:23102			
GI				



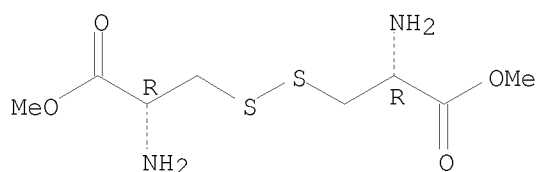
AB The title compds. cis- or trans-I and -II (R1,R2 = H, alkyl, aryl, etc.; NR1R2 = heterocyclic group) are prepared as sunscreens, especially effective for absorbing the 310 nm radiation. Thus, 4-methoxycinnamoyl chloride (preparation given) was reacted with piperidine in benzene to give I (NR1R2 = piperidino). Formulation examples are given.

IT 1069-29-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (amidation by, of methoxycinnamoyl chloride)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 184 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1986:605621 CAPLUS

DOCUMENT NUMBER: 105:205621

ORIGINAL REFERENCE NO.: 105:33101a,33104a

TITLE: High-performance liquid chromatographic analysis of glutathione and its thiol and disulfide degradation products

AUTHOR(S): Stein, Aron F.; Dills, Russell L.; Klaassen, Curtis D.

CORPORATE SOURCE: Med. Cent., Univ. Kansas, Kansas City, KS, 66103, USA

SOURCE: Journal of Chromatography, Biomedical Applications (1986), 381(2), 259-70

CODEN: JCBADL; ISSN: 0378-4347

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A rapid and sensitive HPLC method is described for quantitation of picomole levels of GSH, GSSG, cysteine, cystine, cysteinylglycine, cysteinylglycine disulfide, and cysteine glutathione mixed disulfide in biol. samples. The compds. were separated isocratically on a reversed-phase column by ion-pair chromatog. The mobile phase consisted of an aqueous buffer containing 0.1M monochloroacetic acid and 3.3 mM 1-heptanesulfonic acid (pH 2.60)-MeOH-DMF (96.5:3.0:0.5). After chromatog. separation, the disulfides were reduced by a potential (-1.0 V) from a battery, with subsequent detection of all thiols by electrochem. oxidation (+0.15 V) with a dual Au-Hg electrode. Thiol and disulfide concns. were determined in tissue exts. (liver and kidney) and fluids (bile and plasma) from control rats and rats treated with acivicin, an inhibitor of γ -glutamyl transpeptidase. An increase in biliary GSH concentration was observed in treated animals with a decrease in cysteine and cysteinylglycine.

IT 7729-20-6

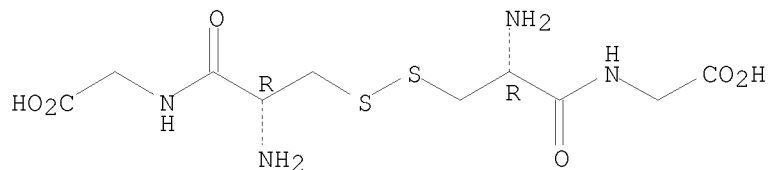
RL: ANT (Analyte); ANST (Analytical study)

(determination of, in biol. materials by HPLC)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 185 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1986:586408 CAPLUS

DOCUMENT NUMBER: 105:186408

ORIGINAL REFERENCE NO.: 105:29997a,30000a

TITLE: Characterization of dehydropeptidase I in the rat lung

AUTHOR(S): Hirota, Takashi; Nishikawa, Yuko; Tanaka, Minoru;

Igarashi, Takashi; Kitagawa, Haruo

CORPORATE SOURCE: Anal. Metab. Res. Lab., Sankyo Co. Ltd., Tokyo, 140, Japan
SOURCE: European Journal of Biochemistry (1986), 160(3), 521-5
CODEN: EJBCAI; ISSN: 0014-2956
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The activity of dehydropeptidase I in rat tissues decreases in the order of lung > kidney > liver-spleen > other tissues, whereas aminopeptidase activity is high in the kidney, and lower in the lung than in other tissues. Dehydropeptidase I was solubilized from the membrane fraction of rat lung by treatment with papain and purified by DEAE-cellulose column chromatog., affinity chromatog. on Con A-Sepharose, and HPLC gel filtration. The purified preparation was homogeneous on SDS-PAGE. The relative mol. mass was estimated to be 150,000 by gel filtration, comprising a homodimer of two 80,000 mol.-weight subunits. The enzyme activity was inhibited by cilastatin, o-phenanthroline, and ATP. This enzyme catalyzed the hydrolysis of S(substituent)-L-Cys-Gly adducts such as L-cystinyl-bis(glycine), and N-ethylmaleimide-S-L-Cys-Gly, as well as the conversion of leukotriene D4 to E4. Furthermore, it catalyzed a hydrolytic splitting of L-Leu-L-Leu, but not S-benzyl-L-cysteine p-nitroanilide, which is a good substrate for aminopeptidase. The enzyme preparation was immunol. identical to the rat renal dehydropeptidase I. The physiol. significance of the pulmonary dehydropeptidase I on the metabolism of GSH and its adducts is discussed.

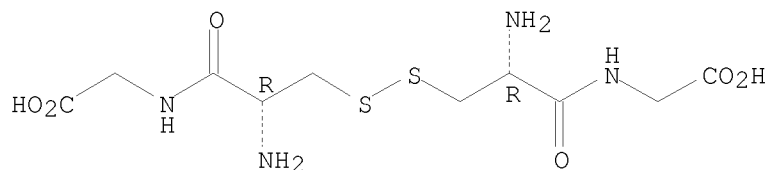
IT 7729-20-6

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with dehydropeptidase I of lung, kinetics of)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 186 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1986:533605 CAPLUS

DOCUMENT NUMBER: 105:133605

ORIGINAL REFERENCE NO.: 105:21553a, 21556a

TITLE: The synthesis of substituted
[[3(S)-(acylamino)-2-oxo-1-azetidiny]thio]acetic
acids

AUTHOR(S): Woulfe, Steven R.; Miller, Marvin J.

CORPORATE SOURCE: Dep. Chem., Univ. Notre Dame, Notre Dame, IN, 46556,
USA

SOURCE: Journal of Organic Chemistry (1986), 51(16), 3133-9
CODEN: JOCEAH; ISSN: 0022-3263

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 105:133605

GI



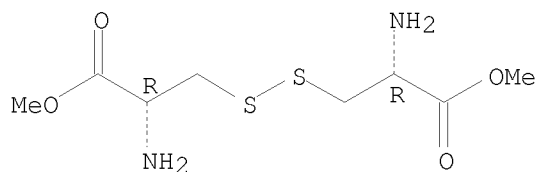
AB The title compds. (thiamazins) I [R = 2-aminothiazol-4-yl(methoxyimino)methyl, PhCH₂, PhOCH₂; R¹ = Me, OAc] were prepared 3(S)-(Acylamino)-2-azetidinones II were sulfenylated with tert-Bu (phthalimidothio)acetate. Deprotection of the tert-Bu esters with CF₃CO₂H provided I. In sharp contrast to their oxygen analogs (oxamazins), I were devoid of biol. activity.

IT 32854-09-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (benzyloxycarbonylation of)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 187 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1986:533180 CAPLUS

DOCUMENT NUMBER: 105:133180

ORIGINAL REFERENCE NO.: 105:21473a,21476a

TITLE: Electron transfer. 79. Reductions of organic disulfides by vitamin B12s (cob(I)alamin)

AUTHOR(S): Pillai, G. Chithambarathanu; Gould, Edwin S.

CORPORATE SOURCE: Dep. Chem., Kent State Univ., Kent, OH, 44242, USA

SOURCE: Inorganic Chemistry (1986), 25(19), 3353-6
 CODEN: INOCAJ; ISSN: 0020-1669

DOCUMENT TYPE: Journal

LANGUAGE: English

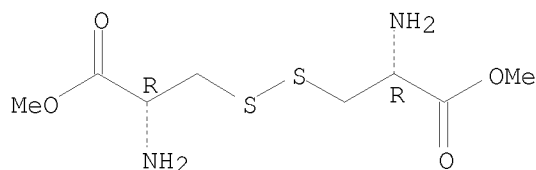
AB The title compound (I) reacts rapidly and completely with aqueous RSSR (II; R = HO₂CCH₂, HOCH₂CH₂, 4-pyridyl, etc.)) to give the corresponding RSH and cob(II)alamin, which reacts only slowly and incompletely with II. The reactions are 1st order each in I and II and are generally accelerated 3-7 fold by monoprotection of the oxidant II; rate enhancements due to diprotonation (when it occurs) are slight. Reduction of the mono-anion of II (R = CH₂CO₂H) is unexpectedly rapid, suggesting destabilization of the S-S bond by internal H-bonding. Alternate mechanisms involving the intermediacy of RS• or a Co(III) transient are consistent with the exptl. data.

IT 1069-29-0 103422-93-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reduction of, by vitamin B12s, kinetics and mechanism of)

RN 1069-29-0 CAPLUS

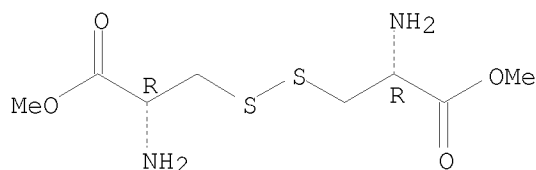
CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



RN 103422-93-1 CAPLUS
 CN L-Cystine, dimethyl ester, conjugate monoacid (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● H⁺

L5 ANSWER 188 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1986:528364 CAPLUS
 DOCUMENT NUMBER: 105:128364
 ORIGINAL REFERENCE NO.: 105:20605a,20608a
 TITLE: LHRH analogs useful in stimulating anti-LHRH
 antibodies and vaccines containing such analogs
 INVENTOR(S): Mia, Abdus Salam
 PATENT ASSIGNEE(S): Pitman-Moore, Inc., USA
 SOURCE: Eur. Pat. Appl., 20 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 181236	A2	19860514	EP 1985-308166	19851108
EP 181236	A3	19870923		
EP 181236	B1	19911009		
R: BE, DE, FR, GB, IT, LU, NL, SE				
US 4608251	A	19860826	US 1984-670469	19841109
ZA 8603292	A	19871230	ZA 1986-3292	19860501
AU 8657178	A	19871112	AU 1986-57178	19860506
AU 587825	B2	19890831		

PRIORITY APPLN. INFO.: US 1984-670469 A 19841109

AB A protein conjugate of Lys-Trp-Ser-Tyr-Gly-Leu-Arg-Pro-Gly-NH₂ [Lys-LH-RH(3-10)] and(or) Cys-Lys-LH-RH (3-10), alone or mixed with adjuvant, is an immunogen which induces formation of antibodies which react with LH-RH and is useful as a contraceptive. Thus, Lys-LH-RH (3-10) was prepared by the solid-phase method and conjugated with bovine or human serum albumin by the carbodiimide method; the degree of conjugation was 10-40 peptide/10,000 daltons of protein. The conjugate was sterilized and emulsified in buffered saline-mineral oil for use as a vaccine.

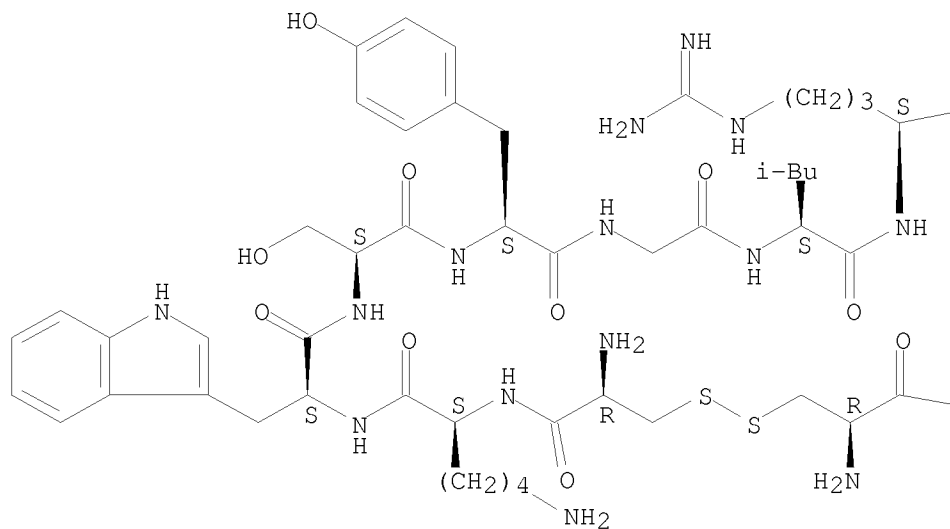
IT 104282-73-7D, protein conjugates
 RL: BIOL (Biological study)
 (as contraceptive vaccines)

RN 104282-73-7 CAPLUS

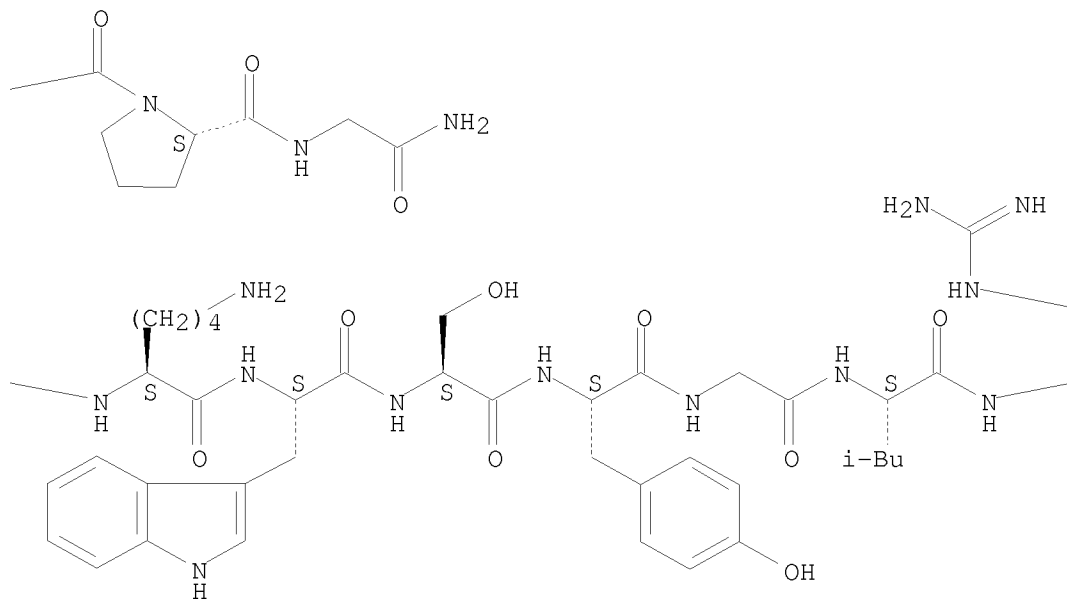
CN Glycinamide, L-cysteinyl-L-lysyl-L-tryptophyl-L-seryl-L-tyrosylglycyl-L-leucyl-L-arginyl-L-prolyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

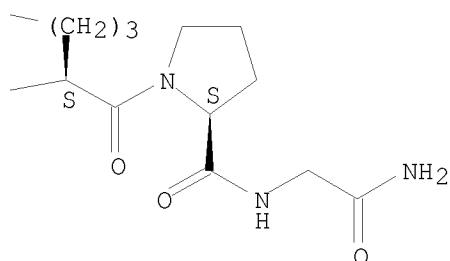
Absolute stereochemistry.

PAGE 1-A

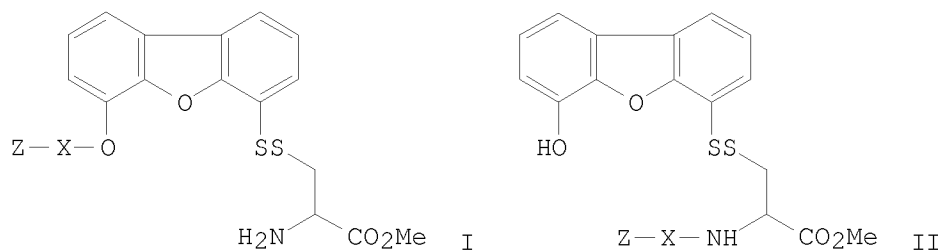


PAGE 1-B





L5 ANSWER 189 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1986:515398 CAPLUS
 DOCUMENT NUMBER: 105:115398
 ORIGINAL REFERENCE NO.: 105:18703a,18706a
 TITLE: Peptide synthesis by prior thiol capture. 4. Amide bond formation. The effect of a side-chain substituent on the rates of intramolecular O,N-acyl transfer
 AUTHOR(S): Kemp, D. S.; Galakatos, Nicholas G.; Dranginis, Stanley; Ashton, Christopher; Fotouhi, Nader; Curran, Timothy P.
 CORPORATE SOURCE: Dep. Chem., Massachusetts Inst. Technol., Cambridge, MA, 02139, USA
 SOURCE: Journal of Organic Chemistry (1986), 51(17), 3320-4
 CODEN: JOCEAH; ISSN: 0022-3263
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 105:115398
 GI



AB The effects of varying steric bulk of the side chain substituent of the acylating agent on the rate of the amide-bond forming step of the dibenzofuran-based thiol capture strategy were determined from rates of intramol. O → N-acyl transfer of O-acyl dibenzofuran derivs. I [Z = PhCH2O2C; X = Ala, Leu, Pro, Val, Lys(Z), Asn, Asp, Arg(ans) (ans =

9-anthracenesulfonyl)] to the N-acyl derivs. II in DMSO at 25°. Half times of 2-4 h were observed for all cases except for Pro and Val, which are roughly an order of magnitude slower, and for Asp, which shows evidence of intramol. general base catalysis by the neighboring carboxylate group. A steric rationalization for the anomalously slow proline transfer rate is proposed.

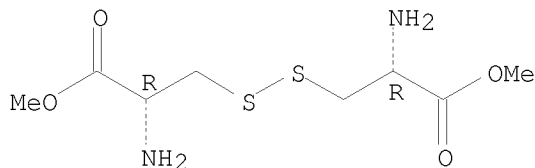
IT 32854-09-4

RL: RCT (Reactant); RACT (Reactant or reagent)
(peptide coupling of, with lysine derivative)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 190 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1986:502413 CAPLUS

DOCUMENT NUMBER: 105:102413

ORIGINAL REFERENCE NO.: 105:16495a,16498a

TITLE: Carrier-linked primaquine in the chemotherapy of malaria

AUTHOR(S): Hofsteenge, Jan; Capuano, Anne; Altszuler, Rita; Moore, Stanford

CORPORATE SOURCE: Rockefeller Univ., New York, NY, 10021, USA

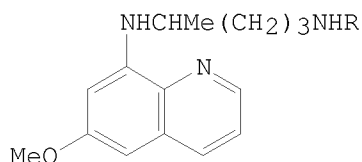
SOURCE: Journal of Medicinal Chemistry (1986), 29(9), 1765-9

CODEN: JMCMAR; ISSN: 0022-2623

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



I, R=H

II, R=COCH(NH₂)CH₂SH

AB The antimalarial effect of i.v. administered primaquine (I) [90-34-6] can be improved and its toxicity diminished by linking it to a macromol. carrier protein. A thiol-containing primaquine derivative 8-[[4-(2-amino-3-mercaptopropionamido)-1-methylbutyl]amino]-6-methoxyquinoline (II) [102615-50-9] was prepared. This compound could readily be linked via a disulfide bond to a carrier protein containing (pyridyldithio)propionate groups. The derivative was coupled to serum albumin as well as to serum albumin that contained covalently linked lactose residues. The protein-drug conjugates were tested for their antimalarial activity in mice inoculated with Plasmodium berghei. The causal prophylactic activity of the conjugate with the lactosaminated serum

albumin was twice higher than that of the free drug; the mean causal prophylactic doses (CPD50) were 6 and 13 mg of I base/kg, resp. Moreover, its acute lethal toxicity had decreased at least by a factor of 6.5 [mean LD (LD50) >85 mg of I base/kg]. The therapeutic index of this conjugate was at least 12-fold higher than that of the free drug. This allowed the administration of a dose that cured 100% of the animals (17.5 mg of I base/kg), in a single injection. With unmodified serum albumin the conjugate showed an increased therapeutic efficacy (the CPD50 was approx. 10 mg of primaquine base/kg) and a strongly reduced lethal toxicity.

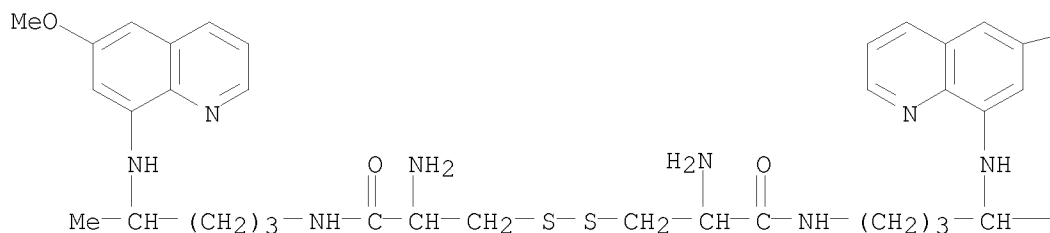
IT 102615-51-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reduction of)

RN 102615-51-0 CAPLUS

CN Propanamide, 3,3'-dithiobis[2-amino-N-[4-[(6-methoxy-8-quinolinyl)amino]pentyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

— OMe

— Me

L5 ANSWER 191 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1986:161985 CAPLUS
 DOCUMENT NUMBER: 104:161985
 ORIGINAL REFERENCE NO.: 104:25465a,25468a
 TITLE: Inhibiting and inducing human platelet aggregation
 INVENTOR(S): Hawiger, Jack J.; Timmons, Sheila; Lukas, Thomas J.; Kloczewiak, Marek
 PATENT ASSIGNEE(S): New England Deaconess Hospital, USA
 SOURCE: PCT Int. Appl., 18 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 8504584	A1	19851024	WO 1985-US589	19850408
W: AU, JP				
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				

US 4661471	A	19870428	US 1984-599477	19840410
AU 8541596	A	19851101	AU 1985-41596	19850408
EP 180595	A1	19860514	EP 1985-901891	19850408
EP 180595	B1	19920909		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
AT 80305	T	19920915	AT 1985-901891	19850408
PRIORITY APPLN. INFO.:			US 1984-599477	A 19840410
			EP 1985-901891	A 19850408
			WO 1985-US589	A 19850408

AB A method is developed which consists of the administration of small-mol.-weight peptides (e.g., the dodecapeptide His-His-Leu-Gly-Gly-Ala-Lys-Gln-Ala-Gly-Asp-Val) or synthetic inhibitory mols. for inhibiting thrombin- or ADP-induced human platelet aggregation by fibrinogen which causes thrombosis in heart diseases and stroke. For example, a solution of this dodecapeptide was mixed with a platelet suspension treated with ADP. A solution of γ -chain fibrinogen multimers was added and the transmission of the reaction mixture was measured. The dodecapeptide caused inhibition of platelet aggregation. A synthetic mol. comprising a number of peptides (e.g., Cys-Tyr-Gly-Gln-Gln-His-His-Leu-Gly-Gly-Ala-Lys-Gln-Ala-Gly-Asp-Val) grafted to a polymeric backbone (e.g., albumin) capable of replacing fibrinogen for ADP-induced platelet aggregation is also described.

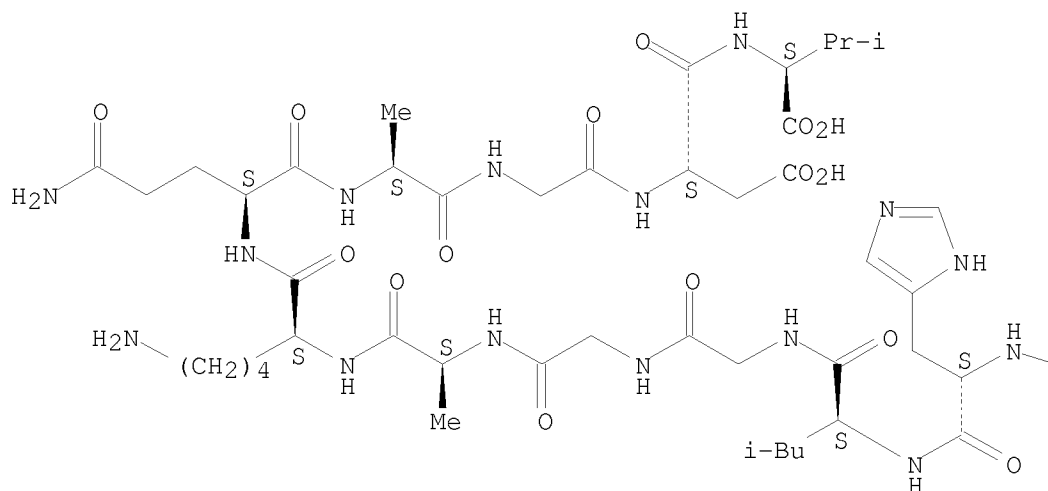
IT 89088-47-1
RL: BIOL (Biological study)
(blood platelet of human aggregation by fibrinogen inhibition by)

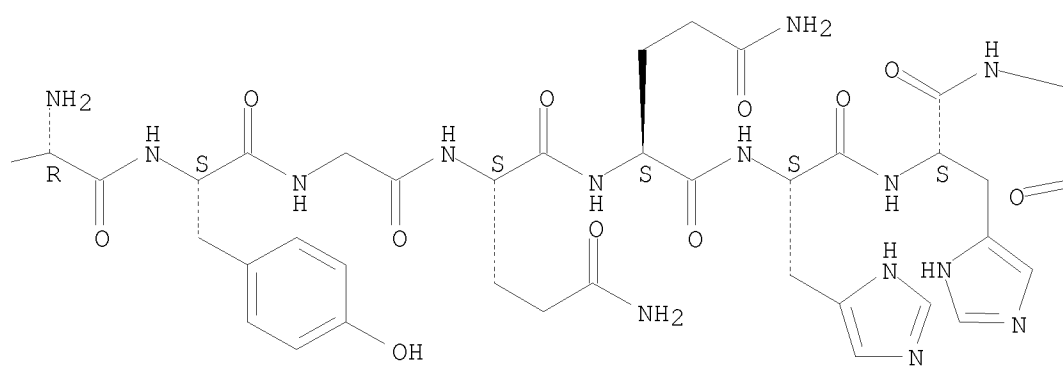
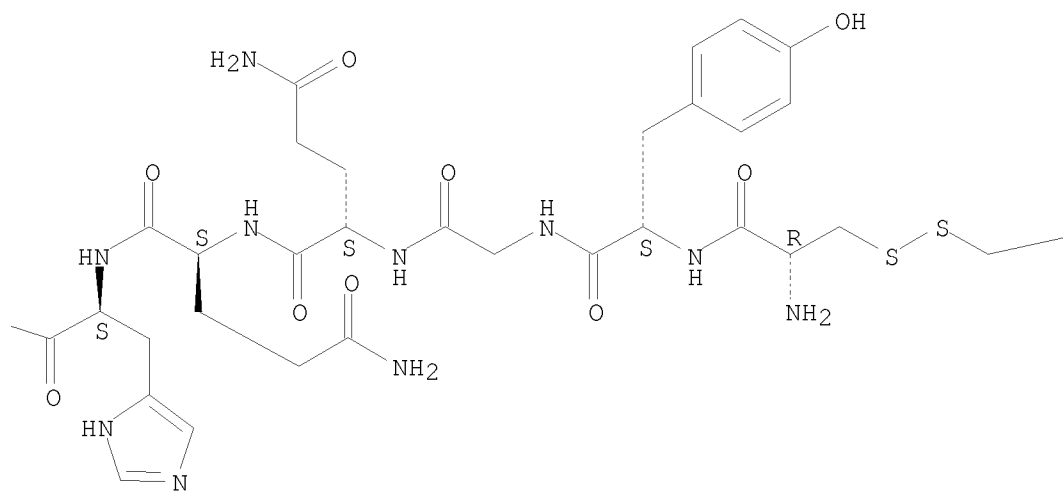
RN 89088-47-1 CAPLUS

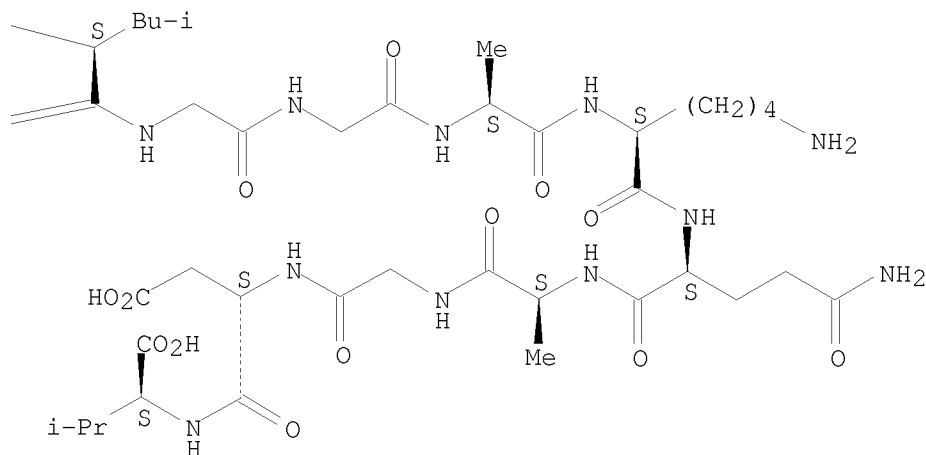
CN L-Valine, L-cysteinyl-L-tyrosylglycyl-L-glutaminyl-L-glutaminyl-L-histidyl-L-histidyl-L-leucylglycylglycyl-L-alanyl-L-lysyl-L-glutaminyl-L-alanylglycyl-L- α -aspartyl-, bimol. (1 \rightarrow 1')-disulfide (9CI)
(CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A







REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 192 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1986:1824 CAPLUS

DOCUMENT NUMBER: 104:1824

ORIGINAL REFERENCE NO.: 104:331a,334a

TITLE: Reactions of nitrogen dioxide in aqueous model systems: oxidation of tyrosine units in peptides and proteins

AUTHOR(S): Pruetz, Walter A.; Moenig, Hans; Butler, John; Land, Edward J.

CORPORATE SOURCE: Inst. Biophys. Strahlenbiol., Univ. Freiburg, Freiburg, D-7800, Fed. Rep. Ger.

SOURCE: Archives of Biochemistry and Biophysics (1985), 243(1), 125-34

CODEN: ABBIA4; ISSN: 0003-9861

DOCUMENT TYPE: Journal

LANGUAGE: English

AB By application of pulse radiolysis it was demonstrated that NO_2^\bullet oxidizes Gly-Tyr [658-79-7] in aqueous solution with a strongly pH-dependent rate constant ($k_6 = 3.2 + 105\text{M}^{-1} \text{ s}^{-1}$ at pH 7.5 and $k_6 = 2.0 + 107\text{M}^{-1} \text{ s}^{-1}$ at pH 11.3), primarily generating phenoxyl radicals. The phenoxyl can react further with NO_2^\bullet ($k_7 \text{ .apprx. } 3 + 109\text{M}^{-1} \text{ s}^{-1}$) to form nitrotyrosine [621-44-3], which is the predominant final product in neutral solution and at low tyrosyl concns. under γ -radiolysis conditions. Tyrosine [60-18-4] nitration is less efficient in acidic solution, due to the natural disproportionation of NO_2^\bullet , and in alkaline solns. and at high tyrosyl concns. due to enhanced tyrosyl dimerization. Selective tyrosine nitration by interaction of NO_2^\bullet with proteins (at pH 7-9) was demonstrated in the case of histone, lysozyme [9001-63-2], RNase [9001-99-4] A, and subtilisin Carlsberg. Nitrotyrosine developed slowly also under incubation of Gly-Tyr with nitrite at pH 4-5, where NO_2^\bullet is formed by acid decomposition of HONO . It is recalled in this context that NO_2^\bullet -induced oxidns., by regenerating NO_2^- , can propagate $\text{NO}_2^\bullet/\text{NO}_2^-$ redox cycling under acidic conditions. Even faster than with tyrosine is the NO_2^\bullet -induced oxidation of cysteine-thiolate

[41079-66-7] ($k_9 = 2.4 + 108M^{-1} s^{-1}$ at pH 9.2), involving the transient formation of cystinyl radical anions. The interaction of $NO_2\bullet$ with Gly-Trp was comparably slow (k .apprx. $106M^{-1} s^{-1}$), and no reaction was detectable by pulse radiolysis with Met-Gly [14486-03-4] and (Cys-Gly)₂ [7729-20-6], or with DNA. Slow reactions of $NO_2\bullet$ were observed with arachidonic acid [506-32-1] (k .apprx. $106M^{-1} s^{-1}$ at pH 9.0) and with linoleate [60-33-3] (k .apprx. $2 + 105M^{-1} s^{-1}$ at pH 9.4), indicating that $NO_2\bullet$ is capable of initiating lipid peroxidn. even in an aqueous environment. $NO_2\bullet$ -induced tyrosine nitration, using 50 μM Gly-Tyr at pH 8.2, was hardly inhibited, however, in the presence of 1 mM linoleate, and was not affected at all in the presence of 5 mM dimethylamine (a nitrosamine precursor). Thus, protein modifications, and particularly phenol and thiol oxidation, may be an important mechanism, as well as initiation of lipid peroxidn., of action of $NO_2\bullet$ in biol. systems.

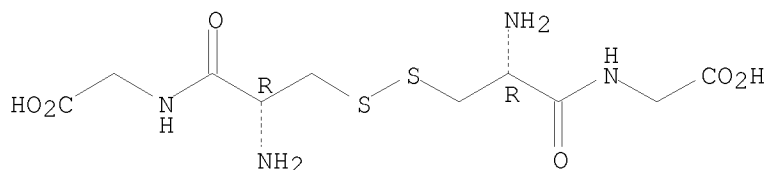
IT 7729-20-6

RL: BIOL (Biological study)
(nitrogen dioxide reaction with)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 193 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1985:605995 CAPLUS

DOCUMENT NUMBER: 103:205995

ORIGINAL REFERENCE NO.: 103:33057a,33060a

TITLE: 2-Mercaptopropionylglycine and related compounds in treatment of mitochondrial dysfunction and postischemic myocardial damage

AUTHOR(S): Fuchs, J.; Mainka, L.; Zimmer, G.

CORPORATE SOURCE: Gustav-Embden-Zent. Biol. Chem., Univ. Frankfurt/Main, Frankfurt/Main, D-6000, Fed. Rep. Ger.

SOURCE: Arzneimittelforschung (1985), 35(9), 1394-402
CODEN: ARZNAD; ISSN: 0004-4172

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Reversal of mitochondrial dysfunction caused by uncouplers of oxidative phosphorylation, diamide, ageing and ischemia was studied using 2-mercaptopropionylglycine (MPG) [1953-02-2], oxidized MPG(ox-MPG) forms and other SH compds. Rat heart mitochondria and mitochondrial ATPase [9000-83-3], oligomycin sensitive-ATPase from beef heart and the isolated working rat heart preparation were examined MPG and ox-MPG partly prevented

and reversed mitochondrial uncoupling and improved deteriorated heart function. ATPase activities were decreased by MPG and ox-MPG in both types of preparation Three mechanisms are probably involved in the thiol action. These comprise alternatively and/or additively: (a) SH/S-S interchange reactions; (b) free radical scavenger function; c) polar-polar (apolar) interactions. This may contribute to improve oxidative phosphorylation which is considered as a result of recoupling damaged mitochondria by MPG.

IT 1069-29-0

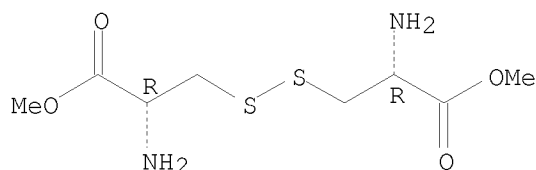
RL: BIOL (Biological study)

(heart ischemia and mitochondrial dysfunction response to)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 194 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1985:578598 CAPLUS

DOCUMENT NUMBER: 103:178598

ORIGINAL REFERENCE NO.: 103:28763a,28766a

TITLE: Conversion of thiosulfinate derivatives of cystine to unsymmetrical cystines and lanthionines by reaction with tris(dialkylamino)phosphines

AUTHOR(S): Olsen, Richard K.; Kini, Ganesh D.; Hennen, William J.
CORPORATE SOURCE: Dep. Chem. Biochem., Utah State Univ., Logan, UT, 84322, USA

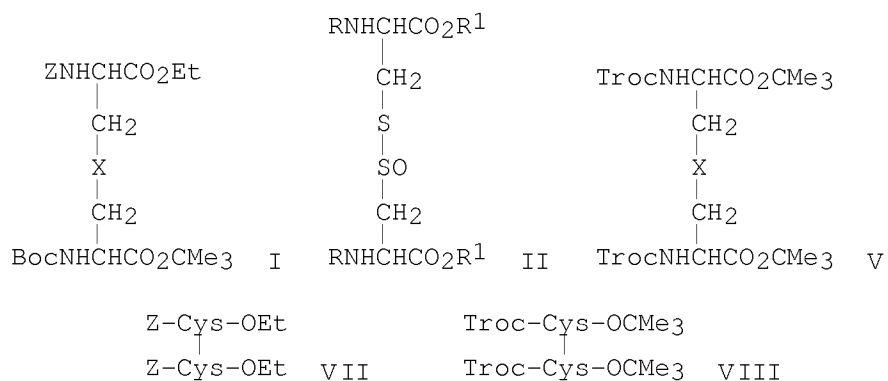
SOURCE: Journal of Organic Chemistry (1985), 50(22), 4332-6
CODEN: JOCEAH; ISSN: 0022-3263

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 103:178598

GI



AB Unsym. lanthionine I (Z = PhCH₂O₂C, Boc = Me₃CO₂C, X = S) was prepared by treating thiosulfinate II (R = Z, R₁ = Et) (III) with Boc-cys-OCMe₃ in the presence of hexaethylphosphorous triamide (IV) and treating the resulting unsym. cystine I (X = SS) with IV. Unsym. lanthionine V (Troc = CCl₃CH₂O₂C, X = S) was prepared similarly from II (R = Troc, R₁ = CMe₃) (VI) and Z-Cys-OEt via unsym. cystine V (X = SS). III and VI were prepared by oxidizing cystines VII and VIII, resp., with m-chloroperbenzoic acid.

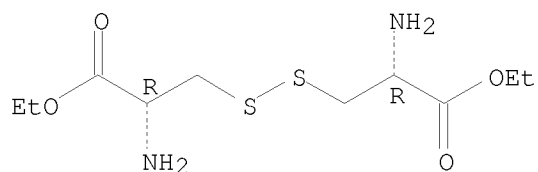
IT 22735-07-5

RL: RCT (Reactant); RACT (Reactant or reagent)
(benzyloxycarbonylation of)

RN 22735-07-5 CAPLUS

CN L-Cystine, diethyl ester, dihydrochloride (9CI) (CA INDEX NAME)

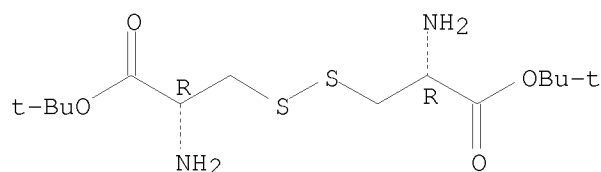
Absolute stereochemistry.



● 2 HCl

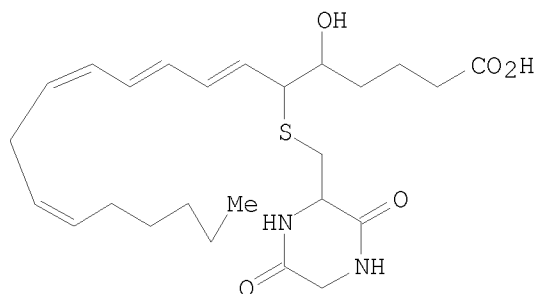
IT 38261-78-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(trichloroethoxycarbonylation of)
RN 38261-78-8 CAPLUS
CN L-Cystine, 1,1'-bis(1,1-dimethylethyl) ester, hydrochloride (1:2) (CA
INDEX NAME)

Absolute stereochemistry. Rotation (-).



● 2 HCl

L5 ANSWER 195 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1985:578059 CAPLUS
DOCUMENT NUMBER: 103:178059
ORIGINAL REFERENCE NO.: 103:28643a, 28646a
TITLE: Preparation of a diketopiperazine analog of
leukotriene D₄ (LTD₄)
AUTHOR(S): Bernstein, P. R.; Krell, R. D.; Snyder, D. W.; Yee, Y.
K.
CORPORATE SOURCE: Stuart Pharm. Div., ICI Americas Inc., Wilmington, DE,
19897, USA
SOURCE: Tetrahedron Letters (1985), 26(16), 1951-4
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 103:178059
GI



I

AB The title compound (I) was prepared as a pair of diastereomers. One pair, putatively cisoid at the amide bond, retained .apprx.1/10 the agonist activity of LTD4.

IT 1069-29-0

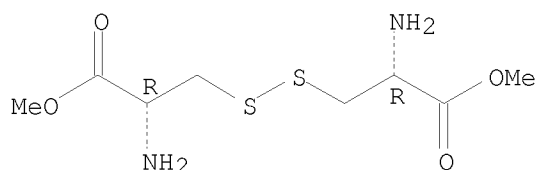
RL: PROC (Process)

(conversion of, into leukotriene analog)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 196 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1985:538003 CAPLUS

DOCUMENT NUMBER: 103:138003

ORIGINAL REFERENCE NO.: 103:22041a,22044a

TITLE: Prenatal diagnosis of cystinosis upon exposure of amniotic cells to cystine dimethyl ester

AUTHOR(S): Steinhertz, Reuben; Makov, Nira; Narinsky, Ronit; Meidan, Bella; Kohn, Gertrude

CORPORATE SOURCE: Dep. Pediatr. A, Rogoff-Wellcome Med. Res. Inst., Tel Aviv-Jaffa, Israel

SOURCE: Israel Journal of Medical Sciences (1985), 21(6), 537-9

CODEN: IJMDAI; ISSN: 0021-2180

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Amniotic cells, fetal skin fibroblasts, and adult cultured fibroblasts from normal and cystinotic subjects were exposed to [35S]cystine di-Me ester for 30 min at 37° and processed by methods including treatment with N-ethylmaleimide, high-voltage electrophoresis, and amino acid anal. For all types of cystinotic cells, the initial [35S]cystine counts were significantly higher than for the corresponding normal cells, indicating a defect in cystine clearance from the cystinotic cells. Also, the ratio of cysteine-N-ethylmaleimide/cystine was <1 in cystinotic and >1 in normal cells. The exposure of amniotic cells to [35S]cystine di-Me ester represents a rapid effective method for the diagnosis of cystinosis in the 1st trimester of pregnancy.

IT 1069-29-0 98353-96-9

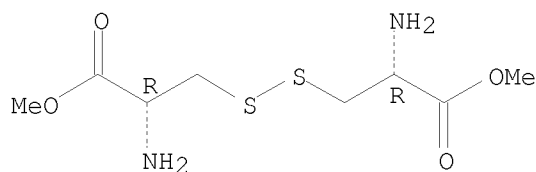
RL: ANST (Analytical study)

(in cystinosis prenatal diagnosis in humans by radioassay)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

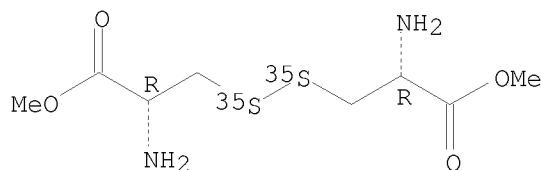
Absolute stereochemistry.



RN 98353-96-9 CAPLUS

CN L-Cystine-35S2, dimethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 197 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1985:467810 CAPLUS

DOCUMENT NUMBER: 103:67810

ORIGINAL REFERENCE NO.: 103:10857a,10860a

TITLE: Detection of thiols and disulfides in liver samples using liquid chromatography/electrochemistry

AUTHOR(S): Lunte, Susan M.; Kissinger, Peter T.

CORPORATE SOURCE: Dep. Chem., Purdue Univ., West Lafayette, IN, 47907, USA

SOURCE: Journal of Liquid Chromatography (1985), 8(4), 691-706
CODEN: JLCHD8; ISSN: 0148-3919

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The determination of thiols and disulfides independent of one another is accomplished through the use of dual electrode liquid chromatog./electrochem. and N-ethylmaleimide. The method can be used to assess peak purity as well as to determine the oxidation state of an unknown thiol. By the addition of N-ethylmaleimide, trace disulfides can be determined without interferences from glutathione or other thiols present in much higher concns. in the liver. This method is used for the detection of mixed disulfides in liver samples.

IT 7729-20-6

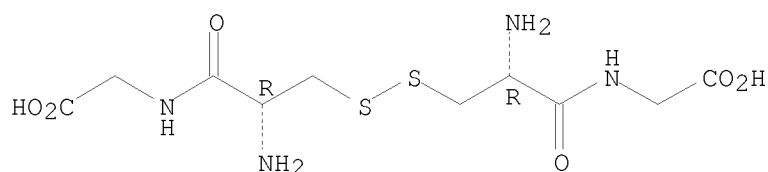
RL: ANT (Analyte); ANST (Analytical study)

(determination of, by liquid chromatog.-electrochem.)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1-1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 198 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1985:433872 CAPLUS

DOCUMENT NUMBER: 103:33872

ORIGINAL REFERENCE NO.: 103:5443a,5446a

TITLE: The amphipathic structure and membrane topology of enzymes involved in the renal catabolism of glutathione

AUTHOR(S): Curthoys, Norman P.; Frielle, Thomas; Tsao, Betty; McIntyre, Thomas M.; Hughey, Rebecca P.

CORPORATE SOURCE: Sch. Med., Univ. Pittsburgh, Pittsburgh, PA, USA

SOURCE: Glutathione: Storage, Transp. Turnover Mamm., [Symp. Pap.] (1983), Meeting Date 1981, 147-71. Editor(s): Sakamoto, Yukiya; Higashi, Taneaki; Tateishi, Noriko. Japan Sci. Soc. Press: Tokyo, Japan. CODEN: 53RXA2

DOCUMENT TYPE: Conference

LANGUAGE: English

AB The properties of a wide-specificity dipeptidase (EC 3.4.13.11) (I) from rat kidney brush border membranes were studied, and I was related to the roles of γ -glutamyltransferase (II) and aminopeptidase M (III) in GSH metabolism. I, separated from III by differential papain treatment, was a dimeric glycoprotein with subunit mol. weight = 49,000. I displayed a wide specificity for dipeptides, especially those with smaller or strain-chain residues. A free α -NH₂ group on an L-amino acid was a requirement for substrate hydrolysis; tri- and tetrapeptides were not hydrolyzed. I had a much higher specific activity for cystinyl-bis-glycine than did III. The involvement of I in the catabolism of Cys-Gly, the product of the II reaction with GSH, was indeterminate. The phys. properties and membrane topog. of brush border II and III are extensively reviewed.

IT 7729-20-6

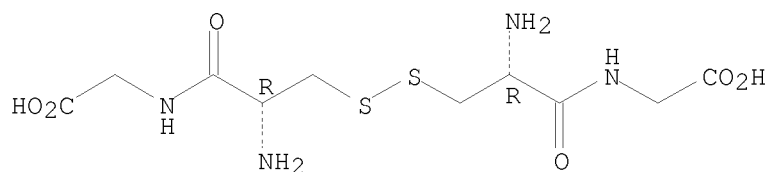
RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with peptidases of kidney brush border membrane, kinetics of)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 199 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1985:198183 CAPLUS

DOCUMENT NUMBER: 102:198183

ORIGINAL REFERENCE NO.: 102:30939a,30942a

TITLE: Enthalpies of ligand binding in bovine neurophysins

AUTHOR(S): Whittaker, Barbara A.; Allewell, Norma M.; Carlson, Jeffrey; Breslow, Esther

CORPORATE SOURCE: Dep. Mol. Biol. Biochem., Wesleyan Univ., Middletown, CT, 06457, USA

SOURCE: Biochemistry (1985), 24(11), 2782-90

CODEN: BICHAW; ISSN: 0006-2960

DOCUMENT TYPE: Journal

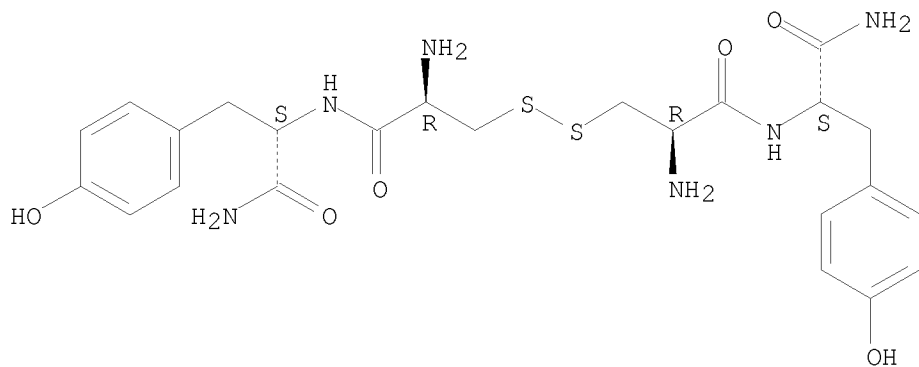
LANGUAGE: English

AB Flow microcalorimetry and batch microcalorimetry were used to survey the energetics of ligand binding by bovine neurophysins I and II. Free

energies of binding of a series of di- and tripeptides that bind to the strong hormone-binding site of neurophysin were partitioned into their enthalpic and entropic components. The results indicate that, at 25°, the binding of most peptides is an enthalpy-driven reaction associated with neg. entropy and heat capacity changes. The neg. enthalpy change is attributed to direct bonding interactions with peptide and possibly also to peptide-induced changes in tertiary or quaternary organization. Comparison of the binding enthalpies of different peptides indicated 2 types of bonding interactions that contribute to the neg. enthalpy change of peptide ligation. Substitution of an aromatic- or S-containing side chain for an aliphatic side chain in position 1 of bound peptides led to increases in neg. enthalpy of from 1 to 6 kcal/mol, demonstrating that interactions typically classified as hydrophobic can have a significant exothermic component at 25°. Similarly, loss of H bonding potential in the peptide decreased the enthalpy change on binding, in keeping with the expected enthalpic contribution of H bonds. The data suggested that the peptide backbone between residues 2 and 3 and the phenolic hydroxyl group in position 2 participate in H bonding. Studies of the buffer dependence of the enthalpy changes associated with peptide binding were also carried out. These suggested that binding enthalpies might be influenced by unexpected interactions of neurophysins with certain buffers and revealed significant behavioral differences between neurophysins I and II.

IT 52329-45-0
 RL: BIOL (Biological study)
 (neurophysin binding of, thermodyn. of)
 RN 52329-45-0 CAPLUS
 CN L-Tyrosinamide, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA
 INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 200 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1985:58896 CAPLUS
 DOCUMENT NUMBER: 102:58896
 ORIGINAL REFERENCE NO.: 102:9189a,9192a
 TITLE: Macromolecule determination by physical development
 INVENTOR(S): Yudelson, Joseph Samuel; Johnson, Thomas Mead
 PATENT ASSIGNEE(S): Eastman Kodak Co., USA
 SOURCE: Eur. Pat. Appl., 23 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 126617	A2	19841128	EP 1984-303296	19840516
EP 126617	A3	19880107		
EP 126617	B1	19910821		
R: CH, DE, FR, GB, IT, LI				
US 4552848	A	19851112	US 1983-495216	19830516
CA 1192820	A1	19850903	CA 1983-431761	19830704
JP 59221665	A	19841213	JP 1984-96306	19840514

PRIORITY APPLN. INFO.:

US 1983-495216 A 19830516

AB A method and kit are described for the determination of macromols. such as proteins and polypeptides on polyacrylamide gels after electrophoresis which gives higher detection sensitivity (<0.01 µg macromol. detected) than obtained with dye staining. The method consists of forming a latent stain image by nucleating the macromols. in the gel with a Pd tetramine salt (nitrate or chloride) catalyst, and developing the image by treating the gel with a phys. developer solution consisting of dimethylamine borane as the reducing agent, a transition metal salt, tetrazolium salt, or triazolium salt, and, preferably, an antifoggant, a complexing agent, and SDS. Thus, β-galactosidase was determined in polyacrylamide gels by fixing the gels in CH3OH-H2O(1:1) for at least 1 h, rinsing with water, treating with Pd(NH3)4Cl2 for 1 min, and developing for 10-20 min in a developer prepared by mixing a solution containing NiCl2·6H2O (36 g/L) and Na gluconate (109 g/L) with a 3% dimethylamine borane solution

IT 32854-09-4

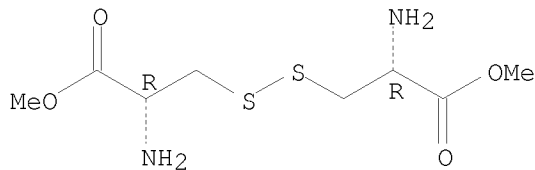
RL: ANST (Analytical study)

(developer solution containing, for biopolymers determination on polyacrylamide gels after electrophoresis)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 201 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1985:39689 CAPLUS

DOCUMENT NUMBER: 102:39689

ORIGINAL REFERENCE NO.: 102:6139a,6142a

TITLE: Inhibition of erythrocyte sickling by thiol reagents

AUTHOR(S): Garel, M. C.; Domenget, C.; Galacteros, F.; Martin-Caburi, J.; Beuzard, Y.

CORPORATE SOURCE: Hop. Henri Mondor, Creteil, 94010, Fr.

SOURCE: Molecular Pharmacology (1984), 26(3), 559-65

CODEN: MOPMA3; ISSN: 0026-895X

DOCUMENT TYPE: Journal

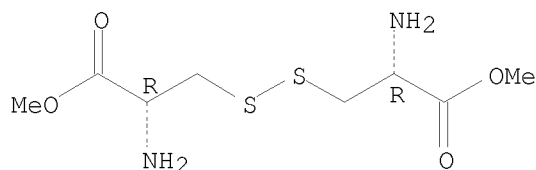
LANGUAGE: English

AB The antisickling effects of 8 thiol reagents that cross the red cell membrane and then react with the cysteine β93, the only accessible thiol group of Hb, were investigated at various pO2 values. In spite of completely reacted Hb, the potent antisickling effect varied from one compound to the other and was partially related to the extent of the

increased O affinity of intact sickle cells induced by these compds. The formation of methHb upon the incubation of red blood cells with some disulfides had only a small effect on the sickling process.

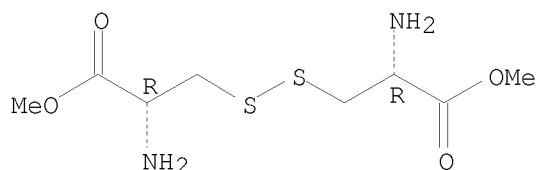
IT 1069-29-0
RL: BIOL (Biological study)
(erythrocyte sickling inhibition by)
RN 1069-29-0 CAPLUS
CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 202 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1984:631018 CAPLUS
DOCUMENT NUMBER: 101:231018
ORIGINAL REFERENCE NO.: 101:35105a,35108a
TITLE: Oxidative deblocking of the 4-methoxybenzyl thioether protecting group: application to the directed synthesis of polycystinyl peptides
AUTHOR(S): Platen, Martin; Steckhan, Eberhard
CORPORATE SOURCE: Inst. Org. Chem. Biochem., Univ. Bonn, Bonn, D-5300/1, Fed. Rep. Ger.
SOURCE: Liebigs Annalen der Chemie (1984), (9), 1563-76
CODEN: LACHDL; ISSN: 0170-2041
DOCUMENT TYPE: Journal
LANGUAGE: English
GI For diagram(s), see printed CA Issue.
AB The 4-methoxybenzyl (MBzl) thioether protecting group was deblocked efficiently by oxidation with the homogeneous electron transfer agent (4-BrC6H4)3N^{•+} (I) leading to the disulfide. Thus, Boc-Cys(MBzl)-OMe (Boc = Me3CO2C) was treated with I to give 90% cystine II. Many N- and carboxyl protecting groups are stable to the above cleavage conditions, whereas the MBzl thioether protective group is unaffected by the conditions for oxidative deblocking of the S-trityl functions by either iodine or rhodanalysis. This method was applied to the synthesis of peptides III and IV.
IT 32854-09-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(peptide coupling of, with phenylalanine derivative)
RN 32854-09-4 CAPLUS
CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

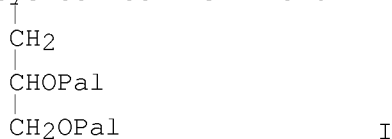
Absolute stereochemistry.



L5 ANSWER 203 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1984:611690 CAPLUS
DOCUMENT NUMBER: 101:211690
ORIGINAL REFERENCE NO.: 101:32095a,32098a
TITLE: Synthetic peptide derivatives of bacterial lipoprotein and their interaction with lymphocyte plasma membranes
AUTHOR(S): Bessler, Wolfgang G.; Wiesmueller, Karlheinz; Scheuer, Werner; Johnson, Ronald B.; Fouad, Hassanein H.; Jung, Guenther
CORPORATE SOURCE: Univ. Tuebingen, Tuebingen, D-7400, Fed. Rep. Ger.
SOURCE: Chem. Pept. Proteins, Proc. USSR-FRG Symp., 4th (1984), Meeting Date 1982, 87-96. Editor(s): Voelter, Wolfgang. de Gruyter: Berlin, Fed. Rep. Ger.
CODEN: 52BGAY
DOCUMENT TYPE: Conference
LANGUAGE: English
GI

Pal-Cys-Ser-Ser-Asn-Ala-OH



AB Lipopeptide segment I (Pal = palmitoyl) was prepared by standard solution methods

of peptide coupling. I was shown to be a potent B-lymphocyte mitogen.

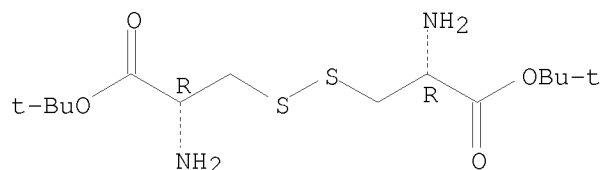
IT 62574-13-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and acylation of, with palmitoyl chloride)

RN 62574-13-4 CAPLUS

CN L-Cystine, 1,1'-bis(1,1-dimethylethyl) ester (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



L5 ANSWER 204 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1984:611674 CAPLUS
DOCUMENT NUMBER: 101:211674
ORIGINAL REFERENCE NO.: 101:32095a,32098a
TITLE: Facile synthesis of amino acid methyl ester p-toluenesulfonates with methyl p-toluenesulfonate
AUTHOR(S): Ueda, Kazuo; Waki, Michinori; Izumiya, Nobuo
CORPORATE SOURCE: Fac. Lib. Arts, Nagasaki Univ., Nagasaki, 852, Japan
SOURCE: Memoirs of the Faculty of Science, Kyushu University, Series C: Chemistry (1984), 14(2), 307-12
CODEN: MFKCAL; ISSN: 0085-2635
DOCUMENT TYPE: Journal
LANGUAGE: English

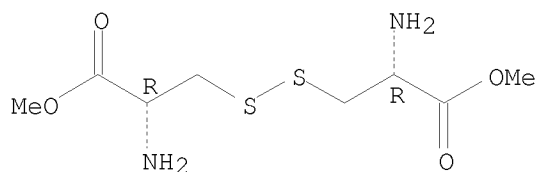
AB Title esters were prepared in good yields by treating amino acids with p-MeC6H4SO3Me (TosOMe) in refluxing MeOH for 10 h. Thus, H-Gly-OMe.TosOH was prepared in 97% yield by the above esterification.
IT 93204-56-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, by esterification with Me tosylate in methanol)
RN 93204-56-9 CAPLUS
CN L-Cystine, dimethyl ester, bis(4-methylbenzenesulfonate) (9CI) (CA INDEX NAME)

CM 1

CRN 1069-29-0

CMF C8 H16 N2 O4 S2

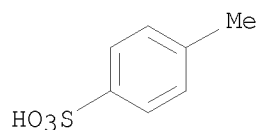
Absolute stereochemistry.



CM 2

CRN 104-15-4

CMF C7 H8 O3 S



L5 ANSWER 205 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1984:589276 CAPLUS

DOCUMENT NUMBER: 101:189276

ORIGINAL REFERENCE NO.: 101:28645a, 28648a

TITLE: Cystine accumulation and clearance in normal and cystinotic fibroblasts exposed to cystine dimethyl ester

AUTHOR(S): Steinherz, R.; Makov, N.; Narinsky, R.; Meidan, B.; Kohn, G.

CORPORATE SOURCE: Dep. Pediatr. A, Rogoff-Wellcome Med. Res. Inst., Tel Aviv-Jaffa, Israel

SOURCE: Clinica Chimica Acta (1984), 141(2-3), 119-25
CODEN: CCATAR; ISSN: 0009-8981

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Exposure of culture skin fibroblasts of normals and cystinotic patients to 0.5 mmol/L [35S]cystine di-Me ester for 30 min resulted in an accumulation of cystine in excess to that naturally occurring in cystinotic skin fibroblasts. These equal levels of cystine accumulation achieved in both cystinotic and normal cells, permitted comparative expts. to look for differences in cystine disposal between normal and cystinotic cells. Cystinotic fibroblasts demonstrated very low cystine clearance with a lower ratio of cysteine-N-ethylmaleimide to cystine than normal. The

results on cystinotic fibroblasts are consistent with those observed in leukocytes, suggesting that fibroblasts can be useful in further studies to elucidate the clearance defect of cystine in cystinosis as well as its potential in antenatal diagnosis.

IT 1069-29-0

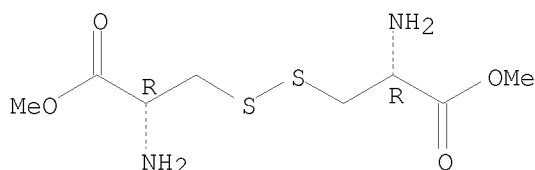
RL: BIOL (Biological study)

(cystine loading of fibroblast using, cystinosis in human in relation to)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 206 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1984:571705 CAPLUS

DOCUMENT NUMBER: 101:171705

ORIGINAL REFERENCE NO.: 101:25987a,25990a

TITLE: Synthesis and properties of L-cysteinyl-L-cysteine disulfides

AUTHOR(S): Capasso, Sante; Mazzarella, Lelio; Tancredi, Teodorico; Zagari, Adriana

CORPORATE SOURCE: Ist. Chim., Univ. Napoli, Naples, 80134, Italy

SOURCE: Biopolymers (1984), 23(6), 1085-97

CODEN: BIPMAA; ISSN: 0006-3525

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Oligomeric cyclic disulfides, obtained by mild oxidation of the fully protected dipeptide L-cysteinyl-L-cysteine, have been isolated by gel and thin-layer chromatog. Polymeric material was recycled by a thiol-disulfide exchange-reaction performed at basic pH. Spectroscopic investigations of the monomer and the two dimers indicate that conformers characterized by dihedral angles about the S-S bond close to $\pm 90^\circ$ are preferred. Moreover, chiroptical and ¹H-NMR data for these compds. suggest higher mobility for the two dimers. The antiparallel dimeric disulfide can be considered a model compound for the hinge region formed at the subunit interface of the bovine seminal RNase.

IT 32854-09-4

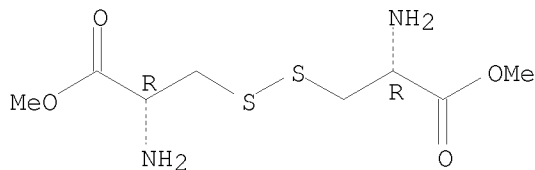
RL: RCT (Reactant); RACT (Reactant or reagent)

(disulfide exchange reaction of, with cysteine derivative)

RN 32854-09-4 CAPLUS

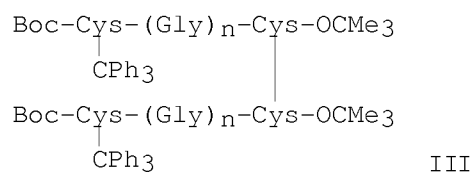
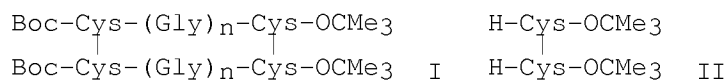
CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



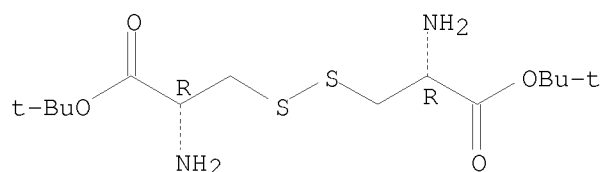
L5 ANSWER 207 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1984:552321 CAPLUS
DOCUMENT NUMBER: 101:152321
ORIGINAL REFERENCE NO.: 101:23079a,23082a
TITLE: A new method for the synthesis of symmetrically cyclic peptides of L-cystine
AUTHOR(S): Trigo, M. Joaquina S. A. Amaral; Santos, M. Isabel A. Oliveira
CORPORATE SOURCE: Fac. Cienc., Univ. Porto, Porto, 4000, Port.
SOURCE: Revista Portuguesa de Quimica (1983), 25(1), 53-6
CODEN: RPTQAT; ISSN: 0035-0419
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



AB Title peptides I (Boc = Me₃CO₂C; n = 0, 1, 2) were prepared by coupling Boc-Cys(CPh₃)-(Gly)_n-OH with cystine diester II by DCC and by treating the resulting peptides III with iodine/MeOH.
IT 62574-13-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(peptide coupling reactions of)
RN 62574-13-4 CAPLUS
CN L-Cystine, 1,1'-bis(1,1-dimethylethyl) ester (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



L5 ANSWER 208 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1984:508830 CAPLUS
DOCUMENT NUMBER: 101:108830
ORIGINAL REFERENCE NO.: 101:16617a,16620a
TITLE: Immunization against hepatitis
PATENT ASSIGNEE(S): University of California, Berkeley, USA
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 59070622	A	19840421	JP 1983-157303	19830830
US 4483793	A	19841120	US 1982-432580	19821004
AU 8316274	A	19840412	AU 1983-16274	19830627
AU 553474	B2	19860717		
EP 119342	A1	19840926	EP 1983-303996	19830708

R: AT, BE, CH, DE, FR, GB, LI, NL, SE

PRIORITY APPLN. INFO.:

US 1982-432580

A 19821004

AB Oligopeptide dimers resembling amino acid segments of hepatitis B surface antigen are described which may be used for the production of vaccine or for the diagnosis of hepatitis. The dimers were shown as [NH₂-Cys(S-)-Thr-Lys-Pro-Thr-Asp-Gly-Asn-Aba-CO₂H]₂ where Aba = α-aminobutyric acid and prepared by a known method. The amino acid sequence was similar to that of amino acids found in B-type hepatitis surface antigen between the 139th and 147th residues of the sequence. A method for the immunization of mammals against hepatitis is described.

IT 90075-16-4P

RL: PREP (Preparation)

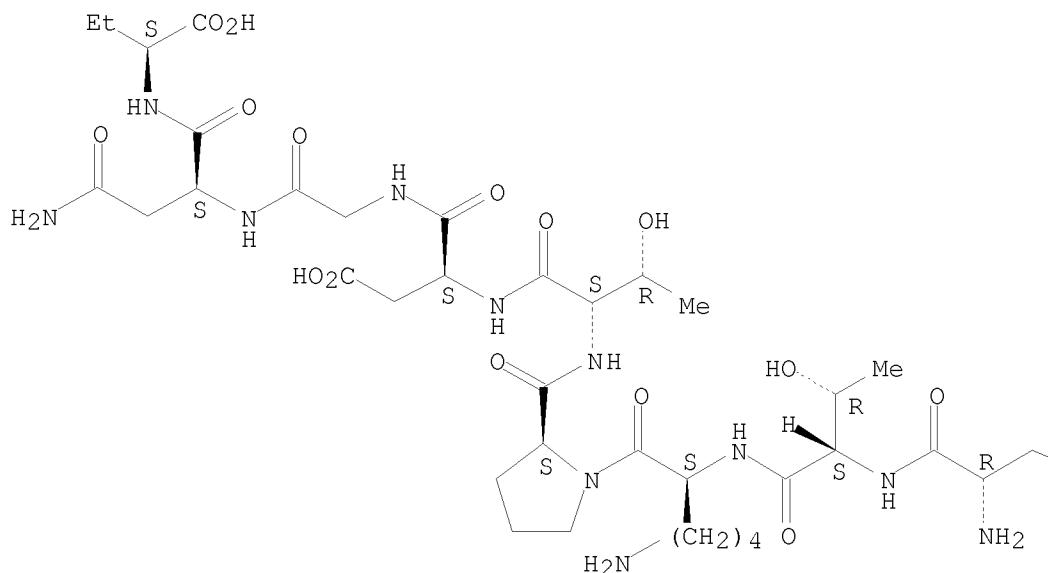
(preparation of, for vaccine production against hepatitis)

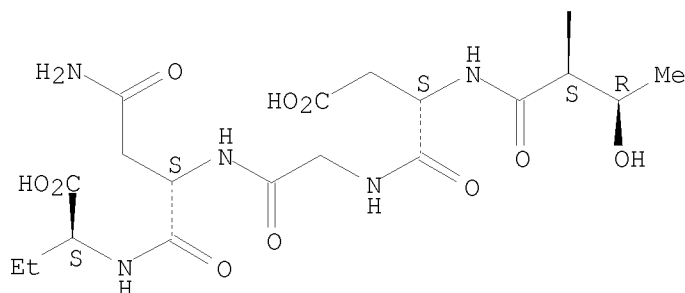
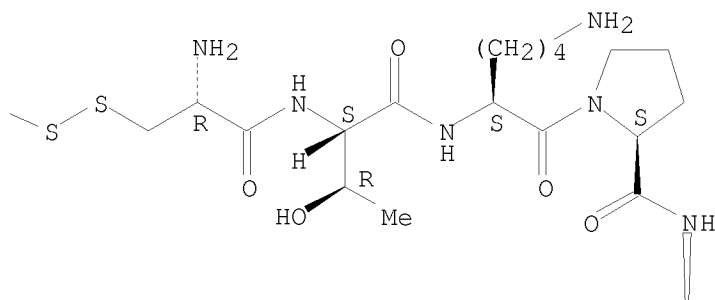
RN 90075-16-4 CAPLUS

CN Butanoic acid, L-cysteinyl-L-threonyl-L-lysyl-L-prolyl-L-threonyl-L-α-aspartylglycyl-L-asparaginyl-2-amino-, bimol. (1→1')-disulfide, [9(2S),9'(2S)]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A





L5 ANSWER 209 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1984:468658 CAPLUS

DOCUMENT NUMBER: 101:68658

ORIGINAL REFERENCE NO.: 101:10551a,10554a

TITLE: Cysteinylglycine in urine determined by high-performance liquid chromatography

AUTHOR(S): Kaagedal, Bertil; Kaellberg, Magnus

CORPORATE SOURCE: Dep. Clin. Chem., Univ. Hosp., Linkoping, S-581 85, Swed.

SOURCE: Journal of Chromatography, Biomedical Applications (1984), 308, 75-82

CODEN: JCBADL; ISSN: 0378-4347

DOCUMENT TYPE: Journal

LANGUAGE: English

AB With N-(1-pyrene)maleimide as a reagent for thiol compds. and HPLC with fluorometric detection, cysteinylglycine was identified as an endogenous compound in dithiothreitol-reduced urine. In a quant. method developed for cysteinylglycine, reduction of urinary disulfides was effected by dithiothreitol at pH 6. The pH was then brought to 1.5 and excess dithiothreitol (together with acid thiols) was extracted with water-saturated EtOAc. After derivatization, the concentration was determined by reversed-phase HPLC

on a 5- μ m Supelcosil LC-8 column with elution by 50 mM H₃PO₄-MeOH (11:9). Precision of the method (relative standard deviation = 6.5%) and anal. recovery (86%) were satisfactory. The urinary excretion of cysteinylglycine was 7.4 μ mol/L in healthy subjects.

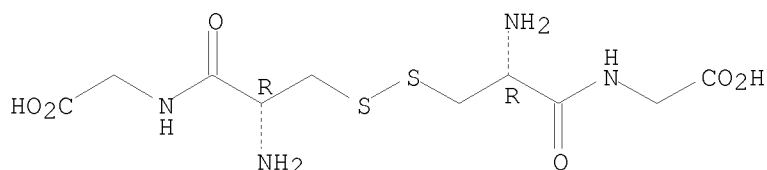
IT 7729-20-6

RL: RCT (Reactant); RACT (Reactant or reagent)
(reduction of, in human urine by dithiothreitol for determination as cysteinylglycine)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 210 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1984:468026 CAPLUS

DOCUMENT NUMBER: 101:68026

ORIGINAL REFERENCE NO.: 101:10439a,10442a

TITLE: Free energy relationships for thiol-disulfide interchange reactions between charged molecules in 50% methanol

AUTHOR(S): Snyder, Grayson H.

CORPORATE SOURCE: Dep. Biol. Sci., State Univ. New York, Buffalo, NY, 14260, USA

SOURCE: Journal of Biological Chemistry (1984), 259(12), 7468-72

CODEN: JBCHA3; ISSN: 0021-9258

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Acid dissociation equilibrium consts. and rate consts. for disulfide interchange

reactions were measured in 50% MeOH at low ionic strength for peptides containing cysteines with local ionic neighboring groups. These phys. consts. may be correlated by separation of free energy contributions into solvent-independent and solvent-dependent factors. The former represent inductive effects which may be evaluated by extrapolation of pK_a values to the limit of infinite ionic strength. These solvent-independent contributions give Broensted coeffs. consistent with previously reported values for disulfides with neutral constituents. The solvent-dependent contributions represent through-solvent electrostatic effects and are consistent with the form of the Bjerrum relation correlating mol. charges, intergroup distances, and the dielec. constant of the solvent. These results provide a quant. framework for developing strategies for employing coulombic interactions to direct disulfide pairing in synthetic polypeptides.

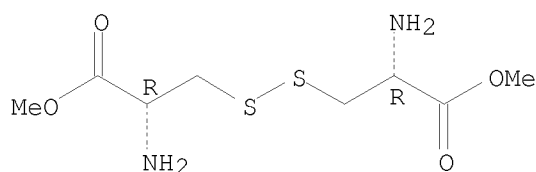
IT 1069-29-0

RL: BIOL (Biological study)
(thiol-disulfide exchange reactions of, in methanol and water, free energy relations of)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 211 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1984:189958 CAPLUS

DOCUMENT NUMBER: 100:189958

ORIGINAL REFERENCE NO.: 100:28855a,28858a

TITLE: Appraisal and prospects of a dimeric synthetic peptide coupled with tetanus toxoid for a bifunctional vaccine against hepatitis B virus infection

AUTHOR(S): Vyas, G. N.; Bhatnagar, P. K.; Blum, H. E.; Expose, J.; Heldebrandt, C. M.

CORPORATE SOURCE: Dep. Lab. Med., Univ. California, San Francisco, CA, 94143, USA

SOURCE: Developments in Biological Standardization (1983), 54(Viral Hepatitis: Stand. Immunoprophyl. Infect. Hepatitis Viruses), 93-102
CODEN: DVBSA3; ISSN: 0301-5149

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Studies were made to characterize the a determinant of the hepatitis B surface antigen (HBsAg) for synthesis of a bifunctional vaccine which might be useful for active immunization as well as for the safe termination of immune tolerance to HBsAg in carriers. The following peptide analogs of HBsAg (HBsPA) were synthesized: 122-137, 128-134, 139-147, 139-158, 140-158, 145-158, and 150-158. Serol. inhibition of human antibodies against the a determinant indicated the antigenicity of the HBSPAs containing the Cys-Thr-Lys-Pro-Thr-Asp-Gly-Asn-Cys sequences. After coupling with keyhole limpet hemocyanin (KLH), carrier-peptide conjugates induced in rabbits anti-HBs which was neutralized equally by 8 different serotypes of HBsAg. Therefore, HBsPA/139-147 represents an essential part of the a determinant. By substituting α -amino-butyric acid for Cys at residue 147, a homogeneous dimeric form of this nonapeptide was prepared After coupling with purified tetanus toxoid or KLH as a carrier by means of carbodiimide, the product induced sustained high level anti-HBs/a response in carrier-primed rabbits.

IT 90075-16-4DP, tetanus toxoid conjugates

RL: PREP (Preparation)

(preparation of and hepatitis B vaccine activity of)

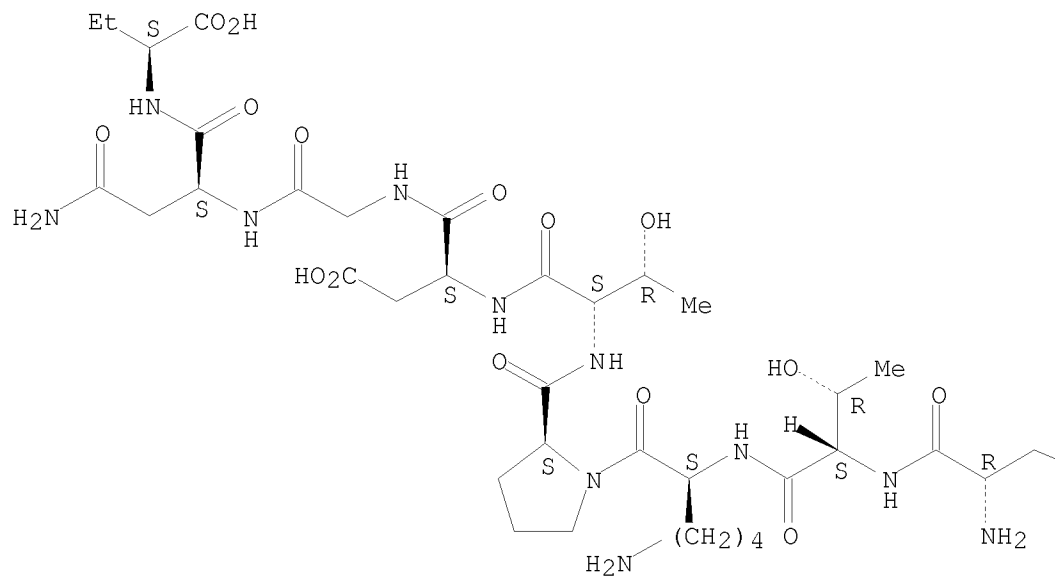
RN 90075-16-4 CAPLUS

CN Butanoic acid, L-cysteinyl-L-threonyl-L-lysyl-L-prolyl-L-threonyl-L- α -aspartylglycyl-L-asparaginyl-2-amino-, bimol.

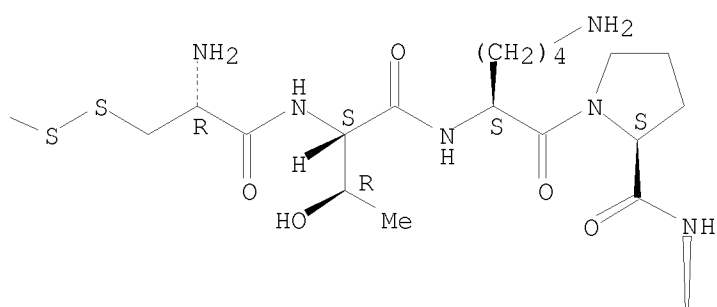
(1 \rightarrow 1')-disulfide, [9(2S),9'(2S)]- (9CI) (CA INDEX NAME)

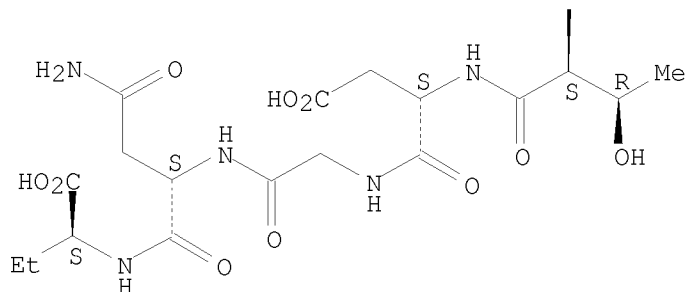
Absolute stereochemistry.

PAGE 1-A



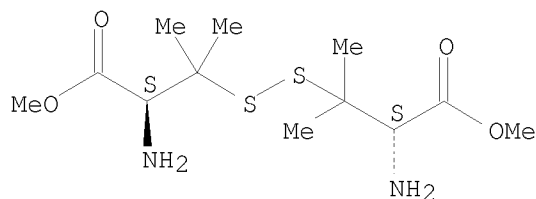
PAGE 1-B





L5 ANSWER 212 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1984:156412 CAPLUS
 DOCUMENT NUMBER: 100:156412
 ORIGINAL REFERENCE NO.: 100:23823a,23826a
 TITLE: Biologically oriented organic sulfur chemistry. 23.
 A hydrodisulfide from a sulfonamide derivative of
 penicillamine
 AUTHOR(S): Heimer, Norman E.; Field, Lamar
 CORPORATE SOURCE: Dep. Chem., Univ. Mississippi, University, MS, 38677,
 USA
 SOURCE: Journal of Organic Chemistry (1984), 49(8), 1446-9
 CODEN: JOCEAH; ISSN: 0022-3263
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB 4-RS2CMe2CH(CO2Me)NHSO2C6H4Me (I, R = H) was prepared from D-penicillamine
 disulfide by methanolysis of I (R = Ac). I (R = H) was characterized by
 spectra, by conversion to the independently synthesized I [R =
 C6H3(NO2)2-2,4] and by titration with iodine. I (R = H) is significantly
 more stable than HS2CMe2CH(CO2Me)NHAc.
 IT 89032-21-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and tosylation of)
 RN 89032-21-3 CAPLUS
 CN D-Valine, 3,3'-dithiobis-, dimethyl ester, dihydrochloride (9CI) (CA
 INDEX NAME)

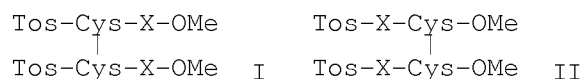
Absolute stereochemistry.



● 2 HCl

L5 ANSWER 213 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1984:139602 CAPLUS
 DOCUMENT NUMBER: 100:139602
 ORIGINAL REFERENCE NO.: 100:21331a,21334a
 TITLE: Synthesis and antimicrobial activity of some di-, tri-
 and tetrapeptides containing cysteine and cystine

AUTHOR(S): El-Naggar, A. M.; Zaher, M. R.; Kora, F. A.
 CORPORATE SOURCE: Fac. Sci., Al-Azhar Univ., Nasr, Egypt
 SOURCE: Journal of the Indian Chemical Society (1983), 60(8),
 762-5
 CODEN: JICSAH; ISSN: 0019-4522
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI



AB Cysteine dipeptides Tos-Cys(CH₂Ph)-X-OMe (Tos = tosyl; X = Gly, Val, Leu),
 Tos-X-Cys(CH₂Ph)-OMe (X = Gly, Val, Leu), and
 Tos-Cys(CH₂Ph)-Cys(CH₂Ph)-OMe were prepared by coupling tosyl amino acids
 with the appropriate amino acid Me ester-HCl by DCC. Cystine peptides I
 [X = Gly, DL-Ala, Val, Leu, DL-Phe, Ser, Tyr, Met, Cys(CH₂Ph)] and II [X =
 Gly, Ala, Val, Met, Cys(CH₂Ph)] were also prepared by the DCC method.
 Several tri- and tetrapeptides of cysteine and cystine were also prepared
 The above peptides formed complexes with Cu(II). Several of the peptides
 exhibited antibacterial activity.

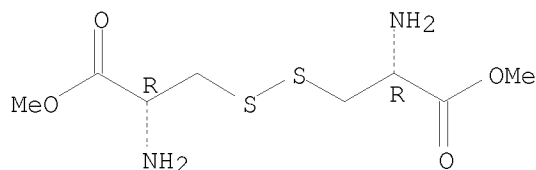
IT 32854-09-4

RL: RCT (Reactant); RACT (Reactant or reagent)
 (peptide coupling of, with tosyl amino acids)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 214 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1984:136496 CAPLUS

DOCUMENT NUMBER: 100:136496

ORIGINAL REFERENCE NO.: 100:20789a, 20792a

TITLE: Platelet receptor recognition site on human
 fibrinogen. Synthesis and structure-function
 relationship of peptides corresponding to the
 carboxy-terminal segment of the γ chain

AUTHOR(S): Kloczewiak, Marek; Timmons, Sheila; Lukas, Thomas J.;
 Hawiger, Jacek

CORPORATE SOURCE: Div. Exp. Med., New England Deaconess Hosp., Boston,
 MA, 02215, USA

SOURCE: Biochemistry (1984), 23(8), 1767-74

CODEN: BICHAW; ISSN: 0006-2960

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Binding of fibrinogen to human platelets depends on the interaction of the

chain-terminal segment with specific receptors exposed by different agonists such as ADP, epinephrine, and thrombin. The functions of a series of synthetic peptides encompassing the sequence of the 15 C-terminal residues of the γ chain were investigated. Both pentadecapeptide (γ 397-411) and dodecapeptide (γ 400-411) inhibited binding of ^{125}I -labeled fibrinogen to ADP-treated platelets, with the concentration causing 50% inhibition (IC_{50}) being $28\ \mu\text{M}$. In comparison, decapeptide (γ 402-411) was almost 4-fold less active ($\text{IC}_{50} = 106\ \mu\text{M}$), thus suggesting that the 2 histidine residues (γ 400-401) are required for a full inhibitory effect. A heptapeptide (γ 405-411) had a similar effect ($\text{IC}_{50} = 102\ \mu\text{M}$), whereas a pentapeptide (γ 407-411) was even less inhibitory ($\text{IC}_{50} = 190\ \mu\text{M}$), indicating that the lack of lysine (γ 406) further diminishes the reactivity of the platelet recognition site on the γ chain of human fibrinogen. The heptapeptide (γ 400-406) containing 2 histidine residues and derived from the dodecapeptide by proteolytic degradation with trypsin had very low inhibitory activity. The synthetic peptides inhibited fibrinogen-supported platelet aggregation in the same order of decreasing reactivity: pentadecapeptide = dodecapeptide > decapeptide = heptapeptide > pentapeptide. Modified synthetic pentadecapeptides bearing tyrosine or cysteinyltyrosine at the N terminus were prepared to provide a means for radiolabeling and for formation of mols. of higher valency. Tyrosyl- γ 397-411 and the dimer cystinyl-(tyrosyl- γ 397-411)₂ obtained by the formation of a SS bond between 2 single peptides had the same inhibitory activity toward the fibrinogen receptor on platelets. Radiolabeled tyrosyl-pentadecapeptide exhibited specific binding to human platelets which was inhibited by the dodecapeptide (γ 400-411). A polyvalent conjugate of cystinyl-tyrosyl- γ 307-411 with human serum albumin was able to induce aggregation of ADP-stimulated platelets which was blocked by pentadecapeptide (γ 397-411) or dodecapeptide (γ 400-411). Furthermore, a monospecific antibody Fab fragment directed against the peptide, encompassing residues γ 385-411, partially inhibited the platelet-aggregating function of the synthetic pentadecapeptide-albumin conjugate. Thus, a polyvalent peptide conjugate functioned as a synthetic fibrinogen substitute in the platelet aggregation system. Thus, the continuous sequence of the 12 amino acid residues at the C-terminal end constitutes the platelet recognition site for the γ chain of human fibrinogen. This segment binds to specific platelet receptors and is involved in the aggregation of platelets.

IT 89088-47-1

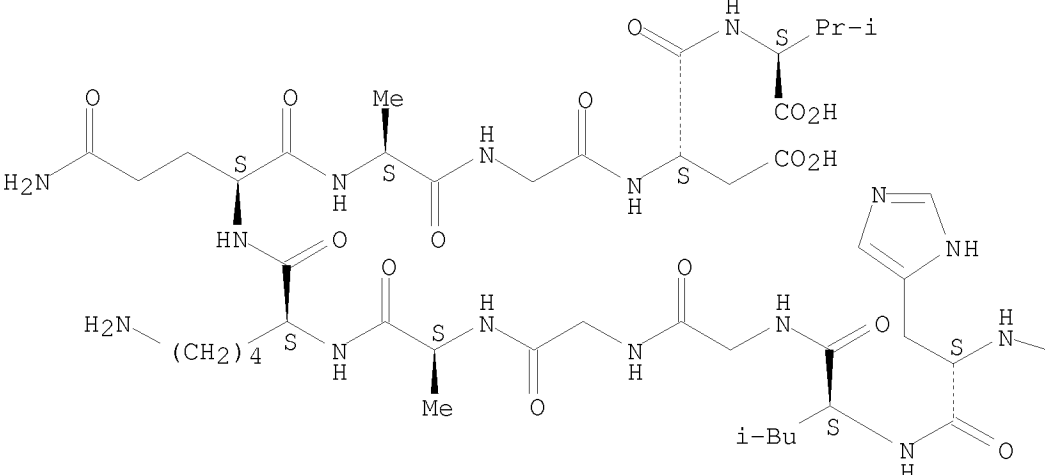
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(blood platelet receptor recognition site activity of, of human)

RN 89088-47-1 CAPLUS

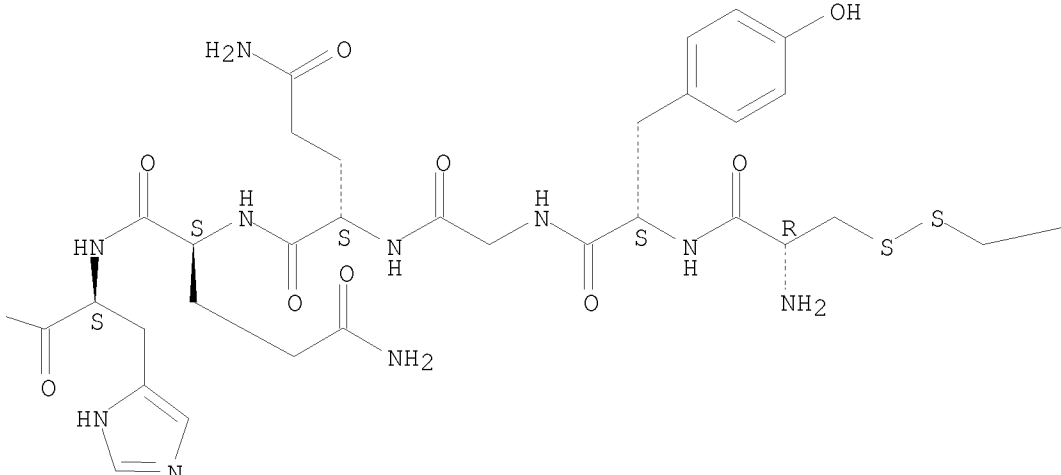
CN L-Valine, L-cysteinyl-L-tyrosylglycyl-L-glutaminyl-L-glutaminyl-L-histidyl-L-histidyl-L-leucylglycylglycyl-L-alanyl-L-lysyl-L-glutaminyl-L-alanylglycyl-L- α -aspartyl-, bimol. (1 \rightarrow 1')-disulfide (9CI)
(CA INDEX NAME)

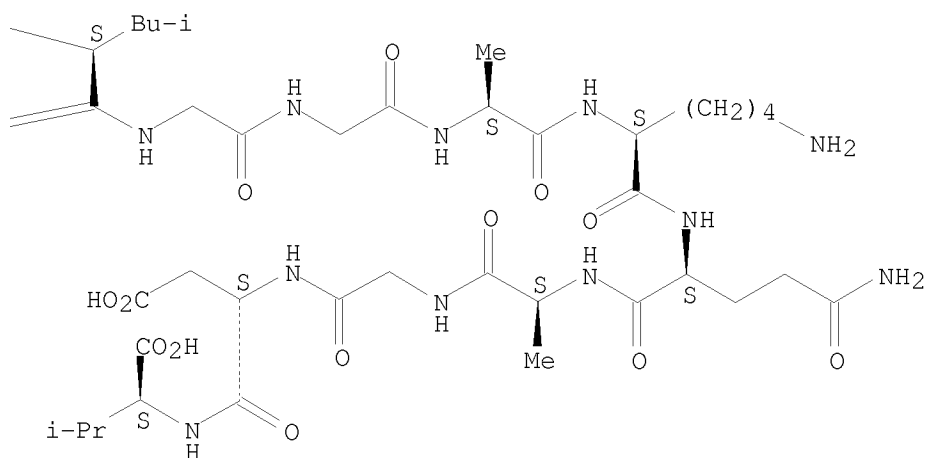
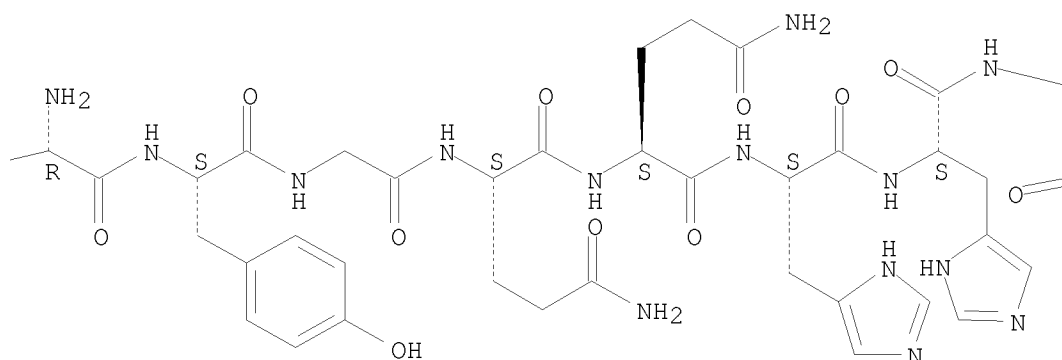
Absolute stereochemistry.

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L5 ANSWER 215 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1984:100492 CAPLUS

DOCUMENT NUMBER: 100:100492

ORIGINAL REFERENCE NO.: 100:15217a,15220a

TITLE: Role of the kidney in the interorgan metabolism of glutathione

AUTHOR(S): Rankin, Barbara B.; McIntyre, Thomas M.; Curthoys, Norman P.

CORPORATE SOURCE: Sch. Med., Univ. Pittsburgh, Pittsburgh, PA, 15261, USA

SOURCE: Funct. Glutathione: Biochem., Physiol., Toxicol., Clin. Aspects, [Karolinska Inst. Nobel Conf.], 5th (1983), Meeting Date 1982, 31-8. Editor(s): Larsson,

Agne. Raven: New York, N. Y.
CODEN: 50PWA4

DOCUMENT TYPE: Conference
LANGUAGE: English

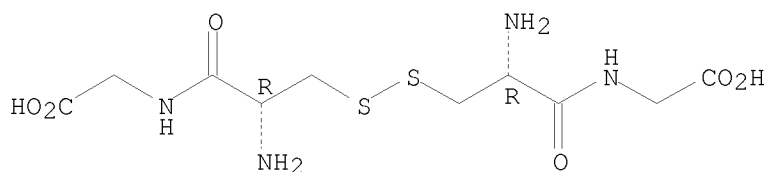
AB The renal paratubular handling of glutathione was studied in rats with cannulae inserted into the abdominal aorta and the inferior vena cava. After infusion of [glycine-3H]glutathione and [14C]inulin, the initial fractions exhibited a 3H:14C ratio of 0.25; in later fractions the ratio increased steadily to 0.9. When AT-125 (a γ -glutamyltranspeptidase inhibitor) was administered, the normalized 3H:14C ratio observed in the initial fraction was 0.4; in later fractions the ratio was slightly >1. Thus, the existence of a glutathione transport system in the renal basolateral membrane is suggested. The aminopeptidase M and dipeptidase activities in renal brush border membranes were characterized. The K_m for aminopeptidase M was 1.2 mM for cysteinylglycine and for dipeptidase was 0.65 mM for cystinyl-bis-glycine.

IT 7729-20-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with dipeptidase, kinetics of)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 216 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1984:7109 CAPLUS

DOCUMENT NUMBER: 100:7109

ORIGINAL REFERENCE NO.: 100:1239a,1242a

TITLE: Metalla derivatives of amino acids and peptides. 2.
Rhena β -ketoimine derivatives of several amino acid esters

AUTHOR(S): Afzal, Dawood; Lukehart, C. M.

CORPORATE SOURCE: Dep. Chem., Vanderbilt Univ., Nashville, TN, 37235, USA

SOURCE: Inorganic Chemistry (1983), 22(26), 3954-6

CODEN: INOCAJ; ISSN: 0020-1669

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The preparation and characterization of 16 rhena β -keto imine derivs. of 12 amino acids are reported. These rhena-labeled amino acids are prepared by a Schiff-base condensation of a rhenaacetylacetone mol. with the appropriate amino acid free base as the Me or Et ester. Heteroat. substituents of the amino acid including hydroxyl, phenolic, sulfhydryl, mercaptyl, ester, or basic amino groups do not prevent rhena β -keto imine formation. Distal rhena labeling of the ϵ -amino group of several L-lysine derivs. is reported also. Thus, cis-[(OC)4ReAc2]H and H2NCHRCO2R1 (R = CHMe2, CH2CHMe2, CH2Ph, CH2C6H4OH-p, CH2SH, CH2CH2SMe, CH2CO2Me; etc.; R1 = Me, Et) gave cis-[(OC)4Re-(Ac)CMe:N+HCHRCO2R1].

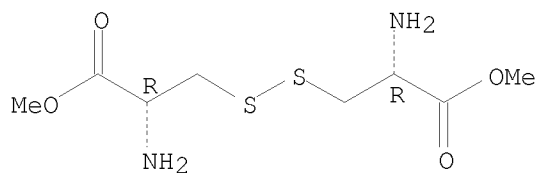
IT 1069-29-0

RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation of, with acetylrhenum complexes)

RN 1069-29-0 CAPLUS

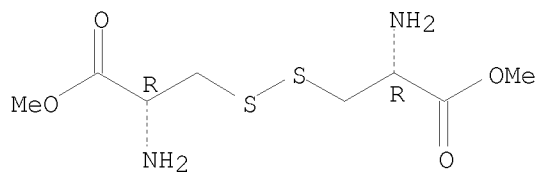
CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 217 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1984:7105 CAPLUS
DOCUMENT NUMBER: 100:7105
ORIGINAL REFERENCE NO.: 100:1239a,1242a
TITLE: The mitogenic principle of Escherichia coli
lipoprotein: synthesis, spectroscopic
characterization, and mitogenicity of
N-palmitoyl-S-[(2R,S)-2,3-dipalmitoyloxypropyl]-(R)-
cysteine methyl ester
AUTHOR(S): Jung, Guenther; Carrera, Carlos; Brueckner, Hans;
Bessler, Wolfgang G.
CORPORATE SOURCE: Inst. Org. Chem., Univ. Tuebingen, Tuebingen, D-7400,
Fed. Rep. Ger.
SOURCE: Liebigs Annalen der Chemie (1983), (9), 1608-22
CODEN: LACHDL; ISSN: 0170-2041
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The title ester (I) was prepared via diacylation of L-cysteine Me ester,
reduction to Pal-Cys-OMe (II) (Pal = pamitoyl), and alkylation with
(2R,S)-PalOCH₂CH(OPal)IH₂Br. Alternatively, HOCH₂CH(OH)CH₂Br was treated
with II and subsequently esterified. Pal-Gly-OMe was also prepared I
exhibits mitogenic activity towards mouse spleen cells as measured by
[³H]thymidine incorporation into DNA. Thus, former investigations having
shown the mitogenic principle of the lipoprotein mol. residing in its
N-terminal fatty acid-containing part are confirmed.
IT 1069-29-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(acylation of, palmitoyl chloride)
RN 1069-29-0 CAPLUS
CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

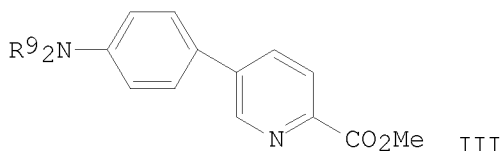
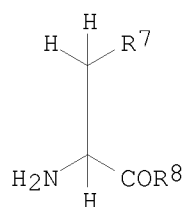
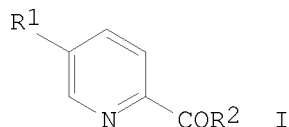
Absolute stereochemistry.



L5 ANSWER 218 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1983:594814 CAPLUS
DOCUMENT NUMBER: 99:194814
ORIGINAL REFERENCE NO.: 99:29987a,29990a
TITLE: Substituted pyridines
INVENTOR(S): Amschler, Hermann; Dittmann, Ernst C.; Ulrich, Wolf
Ruediger
PATENT ASSIGNEE(S): Byk-Gulden Lomberg Chemische Fabrik G.m.b.H., Fed.
Rep. Ger.
SOURCE: Ger. Offen., 43 pp.

DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3245950	A1	19830707	DE 1982-3245950	19821211
PRIORITY APPLN. INFO.: GI			CH 1981-8280	A 19811224



AB Pyridines I [R1 = (un)substituted hydrocarbyl; R2 = NH2, NR3R4, NHR4, OH, OR5; R3 = alkyl; R4 = alkyl, Ph; R5 = allyl, PhCH2] were prepared by cyclizing R3R4NCH:CR1CHO or R3R4N+:CHCR+:CHR6 X- (R6 = leaving group, X- = anion) with amines II (R7 = leaving group, R8 = NR3R4, OR5). Alkylating Me2NCH:C(C6H4NO2-4)CHO in CH2Cl2 with FSO3Me gave Me2N+:CHC(C6H4NO2-4):CHOMe FSO3- which cyclized with L-MeSCH2CH(NH2)CO2Me.HCl in MeOH-EtN(CHMe2)2 to give picolinate III (R9 = O). Hydrogenation gave III (R9 = H). III (R9 = H) and I (R1 = 3,4-Cl2C6H3, R2 = OEt) have distinctly stronger antihypertensive activity than fusaric acid and bupicomide.

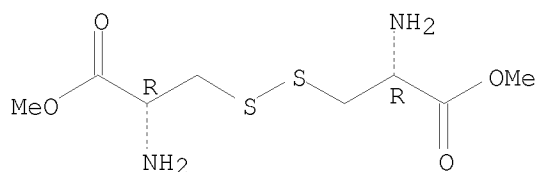
IT 32854-09-4

RL: RCT (Reactant); RACT (Reactant or reagent)
 (cyclization of, with iminopropene compound)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

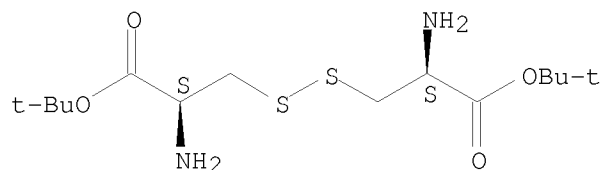
L5 ANSWER 219 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1983:558825 CAPLUS
 DOCUMENT NUMBER: 99:158825

ACCESSION NUMBER: 1983:438268 CAPLUS
 DOCUMENT NUMBER: 99:38268
 ORIGINAL REFERENCE NO.: 99:6008h,6009a
 TITLE: Studies on the total synthesis of streptogramin antibiotics: griseoviridin and madumycin (A-2315A)
 AUTHOR(S): Meyers, A. I.; Lawson, Jon; Amos, Richard A.; Walker, Donald G.; Spohn, Ronald F.
 CORPORATE SOURCE: Dep. Chem., Colorado State Univ., Fort Collins, CO, 80523, USA
 SOURCE: Pure and Applied Chemistry (1982), 54(12), 2537-44
 CODEN: PACHAS; ISSN: 0033-4545
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI

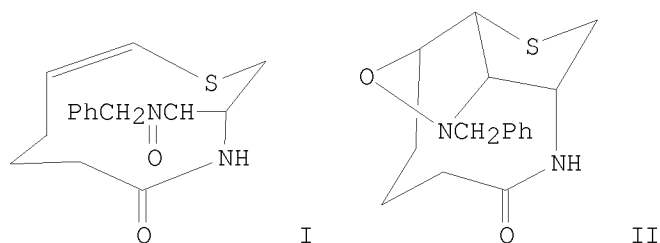
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The synthesis is described of the fragments I (R = Me, H), II, and III, which form key intermediates in a convergent synthesis of the title antibiotics. A key step in the synthesis of I (R = Me, H) was ring closure of (Z)-MeOCMe:NC(CO₂Me):CHOK by treatment with LDA in THF to give the carbanion which cyclized with IV in the presence of ZnCl₂ to give an enantiomeric mixture of V (α -, β -OH) which was resolved.
 IT 85806-66-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation, benzoylation, reduction, and chlorination of)
 RN 85806-66-2 CAPLUS
 CN D-Cystine, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 221 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1983:179053 CAPLUS
 DOCUMENT NUMBER: 98:179053
 ORIGINAL REFERENCE NO.: 98:27207a,27210a
 TITLE: Synthesis of d-biotin from L-cystine via intramolecular [3+2]cycloaddition
 AUTHOR(S): Baggiolini, Enrico G.; Lee, Hsi Lin; Pizzolato, Giacomo; Uskokovic, Milan R.
 CORPORATE SOURCE: Chem. Res. Dep., Hoffmann-La Roche Inc., Nutley, NJ, 07110, USA
 SOURCE: Bulletin des Societes Chimiques Belges (1982), 91(12), 967-71
 CODEN: BSCBAG; ISSN: 0037-9646
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI



AB D-Biotin was prepared from cystine di-Me ester via the nitronium I, which was obtained in 4 steps. I was cyclized in refluxing PhMe to give 63% II which was converted to biotin in 6 steps.

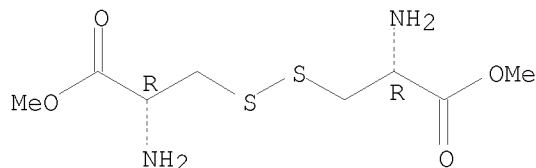
IT 1069-29-0

RL: RCT (Reactant); RACT (Reactant or reagent)
(acylation of, with hexynoyl chloride)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 222 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1983:123369 CAPLUS

DOCUMENT NUMBER: 98:123369

ORIGINAL REFERENCE NO.: 98:18769a,18772a

TITLE: Transport and direct utilization of
 γ -glutamylcyst(e)ine for glutathione synthesis

AUTHOR(S): Anderson, Mary E.; Meister, Alton

CORPORATE SOURCE: Med. Coll., Cornell Univ., New York, NY, 10021, USA

SOURCE: Proceedings of the National Academy of Sciences of the
United States of America (1983), 80(3), 707-11
CODEN: PNASA6; ISSN: 0027-8424

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Administration of γ -glutamylcystine (I) or of
 γ -glutamylcysteine disulfide to mice leads to significantly
increased levels of glutathione in the kidney as compared to controls
given glutamate plus cysteine (or cystinylbisglycine). Studies with I
selectively labeled with ^{35}S in either the internal or external S atom
indicate preferential utilization of the γ -glutamylcysteine moiety
of this compound for glutathione synthesis. Mice depleted of glutathione
by treatment with buthionine sulfoximine do not significantly use the
disulfides I or γ -glutamylcysteine disulfide but do use
 γ -glutamylcysteine for glutathione synthesis. These findings
suggest a pathway in which I, formed by transpeptidation between
glutathione and cystine, is transported and reduced by transhydrogenation
with glutathione to cysteine and γ -glutamylcysteine; the latter is
used directly for glutathione synthesis. The findings show transport of
 γ -glutamyl amino acids, indicate an alternative pathway of
glutathione synthesis, and demonstrate a means of increasing kidney
glutathione levels.

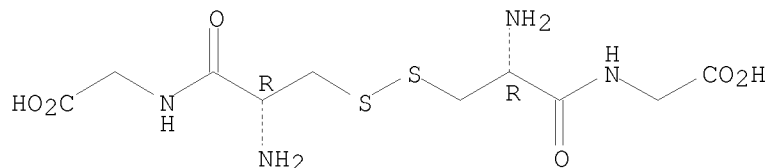
IT 7729-20-6

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(metabolism of, by kidney, glutathione formation in relation to)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 223 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1983:101835 CAPLUS

DOCUMENT NUMBER: 98:101835

ORIGINAL REFERENCE NO.: 98:15429a,15432a

TITLE: Synthesis and biological activities of leukotriene F4 and leukotriene F4 sulfone

AUTHOR(S): Denis, D.; Charleson, S.; Rackham, A.; Jones, T. R.; Ford-Hutchinson, A. W.; Lord, A.; Cirino, M.; Girard, Y.; Larue, M.; Rokach, J.

CORPORATE SOURCE: Dep. Pharmacol., Merck Frosst Canada Inc., Pointe Claire, QC, H9R 4P8, Can.

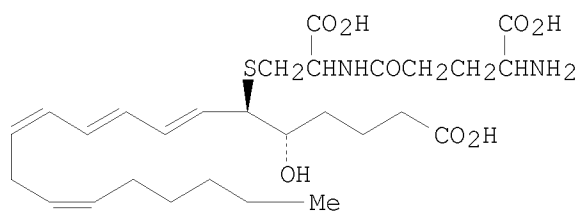
SOURCE: Prostaglandins (1982), 24(6), 801-14

CODEN: PRGLBA; ISSN: 0090-6980

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



I

AB leukotriene F4 (LTF1) (I) [83851-42-7] and its sulfone [84745-89-1] were prepared and their biol. effects compared with those of LTD4 [73836-78-9] in vitro and in vivo. LTF4 displayed comparable activity to LTD4 in contracting isolated guinea pig trachea and lung parenchyma strips but was 100-fold less potent than LTD4 in contracting isolated ileum. Administration of LTF4 i.v. to guinea pigs caused a bronchoconstriction which was blocked by FPL 55712 and indomethacin. The in vivo potency of LTF4 was 50-100-fold less than that of LTD4. LTF4 sulfone was .apprx.2-5-fold less active than the parent in vivo and in vitro. On injection into guinea pig skin PGE2 [363-24-6], LTF4, and its sulfone increased vascular permeability; the following order of potency was observed: LTE4 sulfone [82850-11-1] = LTD4 = LTD4 sulfone [82850-10-0] > LTE4 [75715-89-8] > LTE4 = LTF4 sulfone.

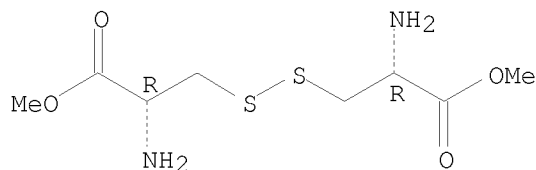
IT 1069-29-0

RL: BIOL (Biological study)

(reaction of with protected glutamic acid benzyl ester)

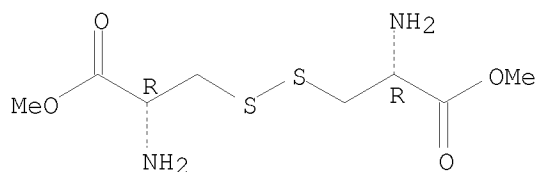
RN 1069-29-0 CAPLUS
CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 224 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1983:72718 CAPLUS
DOCUMENT NUMBER: 98:72718
ORIGINAL REFERENCE NO.: 98:11155a,11158a
TITLE: A total synthesis of leukotriene F4
AUTHOR(S): Ellis, Frank; Mills, Lester S.; North, Peter C.
CORPORATE SOURCE: Chem. Res., Glaxo Group Res. Ltd., Ware, SG12 0DJ, UK
SOURCE: Tetrahedron Letters (1982), 23(36), 3735-6
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English
GI For diagram(s), see printed CA Issue.
AB (±)-Leukotriene A4 Me ester (I; RR1 = O, R2 = Me) was coupled under
with dipeptide II to give after hydrolysis leukotriene F4 (LTF4) [I; R =
α-SCH2CH(CO2H)NHCO(CH2)2CH(CO2H)NH2, R1 = OH, R2 = H] and its
5R,6S-diastereoisomer as their tripotassium salts. Initial studies
indicated that the mixture of LTF4 and its 5R,6S-diastereoisomer is 282
times less active than leukotriene D4 in contracting guinea pig ileum and
has negligible contractile activity on human bronchus in vitro.
IT 32854-09-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(peptide coupling of, with glutamic acid derivative)
RN 32854-09-4 CAPLUS
CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

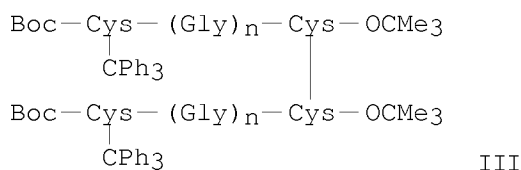
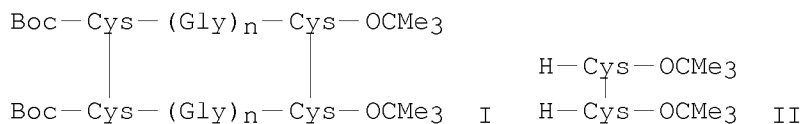
Absolute stereochemistry.



● 2 HCl

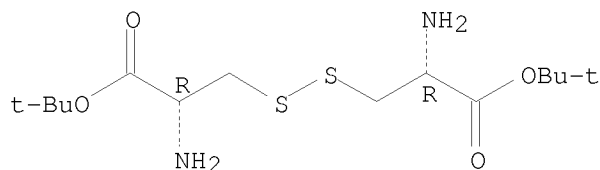
L5 ANSWER 225 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1982:616688 CAPLUS
DOCUMENT NUMBER: 97:216688
ORIGINAL REFERENCE NO.: 97:36389a,36392a
TITLE: Synthesis of L-cystine cyclic symmetrical protected
peptides
AUTHOR(S): Trigo, M. Joaquina S. A. Amaral; Santos, M. Isabel A.
Oliveira
CORPORATE SOURCE: Fac. Cienc., Univ. Porto, Porto, 4000, Port.

SOURCE: Pept., Proc. Eur. Pept. Symp., 16th (1981), Meeting
 Date 1980, 139-43. Editor(s): Brunfeldt, K.
 Scriptor: Copenhagen, Den.
 CODEN: 48NWA3
 DOCUMENT TYPE: Conference
 LANGUAGE: English
 GI



AB Title peptides I (Boc = Me₃CO₂C; n = 0, 1, 2) were prepared by coupling
 cystine II with Boc-Cys(CPh₃)-(Gly)_n-OH by DCC and detritylating-cyclizing
 the resulting peptides III by oxidation by I₂/MeOH.
 IT 62574-13-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (peptide coupling of, with cysteine-containing peptides)
 RN 62574-13-4 CAPLUS
 CN L-Cystine, 1,1'-bis(1,1-dimethylethyl) ester (CA INDEX NAME)

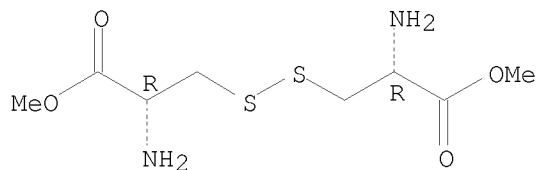
Absolute stereochemistry. Rotation (-).



L5 ANSWER 226 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1982:615864 CAPLUS
 DOCUMENT NUMBER: 97:215864
 ORIGINAL REFERENCE NO.: 97:36225a,36228a
 TITLE: Synthesis of d-biotin from L-cystine via
 intramolecular [3+2]cycloaddition
 AUTHOR(S): Baggiolini, Enrico G.; Lee, Hsi Lin; Pizzolato,
 Giacomo; Uskokovic, Milan R.
 CORPORATE SOURCE: Chem. Res. Dep., Hoffmann-La Roche Inc., Nutley, NJ,
 07110, USA
 SOURCE: Journal of the American Chemical Society (1982),
 104(23), 6460-2
 CODEN: JACSAT; ISSN: 0002-7863
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB D-Biotin was synthesized from L-cystine by a sequence which includes the
 nitron to thioenol ether intramol. cycloaddn. of I to give an
 isoxazolidine which was reduced and acylated followed by reduction of a
 superfluous OH to give D-biotin.

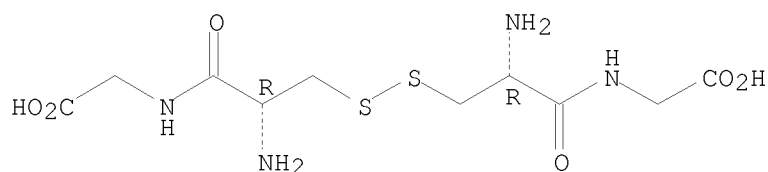
IT 1069-29-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(acylation of)
RN 1069-29-0 CAPLUS
CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 227 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1982:594942 CAPLUS
DOCUMENT NUMBER: 97:194942
ORIGINAL REFERENCE NO.: 97:32565a,32568a
TITLE: Renal catabolism of glutathione. Characterization of a particulate rat renal dipeptidase that catalyzes the hydrolysis of cysteinylglycine
AUTHOR(S): McIntyre, Thomas; Curthoys, Norman P.
CORPORATE SOURCE: Dep. Biochem., Univ. Pittsburgh, Pittsburgh, PA, 15261, USA
SOURCE: Journal of Biological Chemistry (1982), 257(20), 11915-21
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A sensitive assay for the enzymic hydrolysis of cysteinylglycine (I) was developed by using [3H]glycine-labeled I and mercurial agarose. Isolated rat renal brush border membranes hydrolyzed effectively both I (Km = 0.46 mM, Vmax = 0.046 μ mol/min/mg) and (Gly-Cys-S)2 (II) (Km = 0.58 mM, Vmax = 0.20 μ mol/min/mg). Aminopeptidase M accounted for .apprx.50% of the observed hydrolysis of I, but little of II hydrolysis. A 2nd peptidase activity was solubilized and resolved from aminopeptidase M by differential treatment of isolated renal brush border membrane vesicles with papain. The resolved activity effectively hydrolyzed various dipeptides, but not the aminopeptidase M substrate, leucine-p-nitroanilide. The dipeptidase (III) was purified to homogeneity and was a homodimer of glycopeptides. III catalyzed the hydrolysis of a variety of dipeptides, but not tripeptides or tetrapeptides. II was hydrolyzed with a Km of 0.65 mM and a Vmax of 150 μ mol/min/mg. At low concns., I was an effective substrate; however, at concns. >0.2 mM, the SH group caused a pronounced inhibition. Bestatin, an effective inhibitor of aminopeptidase M, had no effect on III activity. It was estimated that III was purified .apprx.14,000-fold from crude homogenates with a yield of \geq 8%. III is probably a component of the brush border membrane. The specificity of III complements the enzymes previously purified from rat kidney and accounts for the ability of this tissue to catabolize oxidized, as well as reduced, glutathione.
IT 7729-20-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with dipeptidase of kidney brush border, kinetics of)
RN 7729-20-6 CAPLUS
CN Glycine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 228 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1982:451593 CAPLUS

DOCUMENT NUMBER: 97:51593

ORIGINAL REFERENCE NO.: 97:8627a,8630a

TITLE: Glutathione-degrading enzymes of microvillus membranes

AUTHOR(S): Kozak, Elena M.; Tate, Suresh S.

CORPORATE SOURCE: Med. Coll., Cornell Univ., New York, NY, 10021, USA

SOURCE: Journal of Biological Chemistry (1982), 257(11), 6322-7

CODEN: JBCHA3; ISSN: 0021-9258

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Microvillus membranes from rat kidney, jejunum, and epididymis were purified by the Ca precipitation method. The membranes exhibited enrichment in specific activities of γ -glutamyl transpeptidase, aminopeptidase M, and a dipeptidase. The latter was characterized and shown to be the principal activity responsible for the hydrolysis of S-derivs. of Cys-Gly (including cystinyl-bis-glycine) and leukotriene D4. A method is described for the simultaneous purification of papain-solubilized forms of the 3 enzymes from renal microvilli. Dipeptidase (mol. weight = 105,000) appeared to be a Zn-metalloprotein composed of two 50,000-dalton subunits. The enzyme was several-fold more effective in the hydrolysis of dipeptides than aminopeptidase M. Dipeptidase, in contrast to aminopeptidase M, was inhibited by thiols; Cys-Gly, in particular, was a potent inhibitor (K_i = 20 μ M). The inhibition of dipeptidase by thiols was employed to probe the relative significance of dipeptidase and aminopeptidase M in the metabolism of glutathione and its derivs. at the membrane surface.

IT 7729-20-6

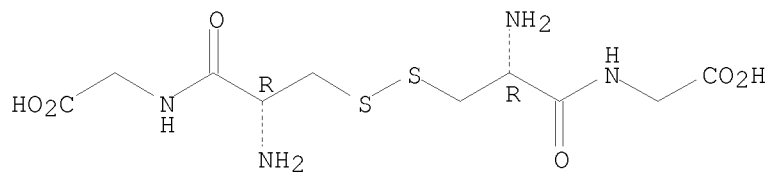
RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with aminopeptidase M and dipeptidase, kinetics of)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 229 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1982:439321 CAPLUS

DOCUMENT NUMBER: 97:39321

ORIGINAL REFERENCE NO.: 97:6743a,6746a

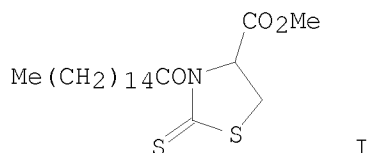
TITLE: A new determination of the absolute configuration of the chiral amine

AUTHOR(S): Nagao, Yoshimitsu; Yagi, Masahiro; Ikeda, Takao; Fujita, Eiichi

CORPORATE SOURCE: Inst. Chem. Res., Kyoto Univ., Kyoto, 611, Japan

SOURCE: Tetrahedron Letters (1982), 23(2), 205-8

DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI



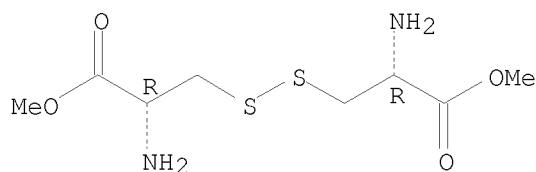
AB A chiral recognition observed in the aminolysis of the thiazolidinethione I with chiral α -amino acid derivs., β -amino alcs., and 3-amino- β -lactams was used to assign the absolute configuration of the asym. C atom attached to an NH₂ group. E.g., unreacted (R)(-)- and (S)(+)-I were recovered in the aminolysis of I with (R)-PhCH(CO₂Me)NH₂.HCl and (S)-PhCH₂CH(CO₂Me)NH₂.HCl, resp.

IT 32854-09-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (aminolysis by, of racemic (methoxycarbonyl)thiazolidinethione, chiral recognition in, absolute configuration by)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 230 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1982:437102 CAPLUS

DOCUMENT NUMBER: 97:37102

ORIGINAL REFERENCE NO.: 97:6331a,6334a

TITLE: Patterns of amino acid efflux from isolated normal and cystinotic human leukocyte lysosomes

AUTHOR(S): Steinherz, Reuben; Tietze, Frank; Raiford, David; Gahl, William A.; Schulman, Joseph D.

CORPORATE SOURCE: Sect. Hum. Biochem. Dev. Genet., Natl. Inst. Child Health Hum. Dev., Bethesda, MD, 20205, USA

SOURCE: Journal of Biological Chemistry (1982), 257(11), 6041-9

CODEN: JBCHA3; ISSN: 0021-9258

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Direct measurements of amino acid efflux from human lysosomes are described. Isolated leukocyte lysosomes were loaded with radioactive amino acids by exposure to low concns. of the corresponding labeled amino acid Me esters. Efflux of amino acid from the loaded lysosomes could then

be determined. Conditions during loading were adjusted for each ester to permit its adequate intralysosomal hydrolysis and subsequent accumulation of the free amino acid. Relative rates of efflux were leucine .simeq. phenylalanine > methionine > tryptophan » cystine. Efflux of leucine, tryptophan, or cystine was independent of exogenous cation, ATP, or amino acid concns. under the conditions tested. Leucine efflux was similar in normal and cystinotic lysosomes, suggesting that isolated cystinotic lysosomes do not manifest a generalized defect in amino acid efflux. In both normal and cystinotic lysosomes, cystine efflux was much slower than efflux of leucine or other amino acids from human or rat liver lysosomes. Significant differences in mean cystine efflux between isolated normal and cystinotic lysosomes were not apparently in the present test system, although the possibility of differences in rates could not be excluded.

IT 1069-29-0

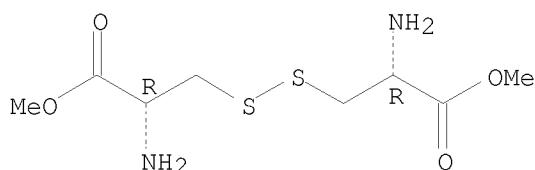
RL: RCT (Reactant); RACT (Reactant or reagent)

(hydrolysis of, by leukocyte lysosome of human, cysteine efflux determination in relation to)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 231 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1982:212739 CAPLUS

DOCUMENT NUMBER: 96:212739

ORIGINAL REFERENCE NO.: 96:35049a,35052a

TITLE: Binding of 21 thiol reagents to human hemoglobin in solution and in intact cells

AUTHOR(S): Garel, Marie Claude; Beuzard, Yves; Thillet, Joelle; Domenget, Chantal; Martin, Josiane; Galacteros, Frederic; Rosa, Jean

CORPORATE SOURCE: Unite Rech. Anemies, INSERM, Creteil, Fr.

SOURCE: European Journal of Biochemistry (1982), 123(3), 513-19

CODEN: EJBCAI; ISSN: 0014-2956

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The reactivity of the cysteine- β 93 residue of human Hb was investigated in order to define the optimal structure of potential antisickling agents. The properties of 21 thiol reagents were compared with regard to (a) their binding rate to Hb in solution and within intact cells; (b) the modification of the O₂ dissociation curve of intact cells, and (c) the effect on methHb formation in solution or within intact cells. The results showed the very different behaviors of these reagents.

IT 1069-29-0

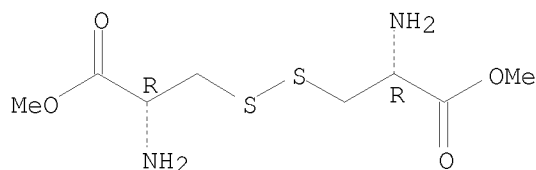
RL: BIOL (Biological study)

(Hb of human binding of, oxygen equilibrium and Hb oxidation in relation to)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 232 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1982:85960 CAPLUS

DOCUMENT NUMBER: 96:85960

ORIGINAL REFERENCE NO.: 96:14131a,14134a

TITLE: Synthesis of macrocyclic peptide thiolactones as models of the metastable binding sites of α 2-macroglobulin and complement protein C3b

AUTHOR(S): Khan, Shabbir A.; Erickson, Bruce W.

CORPORATE SOURCE: Rockefeller Univ., New York, NY, 10021, USA

SOURCE: Journal of the American Chemical Society (1981), 103(24), 7374-6

CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: English

GI For diagram(s), see printed CA Issue.

AB Title macrocyclic thiolactones I (R = H, H-Gly, Ac-Gly; R1 = H) were prepared by 2 synthetic strategies. Boc-Glu(OCH2Ph)-Glu-Asn-NH2 (II, Boc = Me3CO2C) was converted into active ester Boc-Glu(OCH2Ph)-Glu(OBt)-Asn-NH2 (Bt = benzotriazol-1-yl), which was esterified with Z-Cys-Gly-OH (Z = PhCH2O2C) to give peptide thioester III (R2 = H), which was converted to III (R2 = C6H2Cl3-2,4,5). The latter was deblocked and then cyclized to give I (R = Z, R1 = CH2Ph), which was deblocked by HF/anisole to give I (R = R1 = H). II was deblocked and then coupled with cystine peptide IV (R3 = OH) by the mixed anhydride method to give IV [R3 = Glu(OCH2Ph)-Glu-Asn-NH2], which was reduced to give Z-Gly-Cys-Gly-Glu(OCH2Ph)-Glu(OR4)-Asn-NH2 (V, R4 = H). The latter was converted to V (R4 = Bt), which was cyclized to give I (R = Z-Gly, R1 = CH2Ph), which was deblocked by HF/anisole to give I (R = H-Gly, R1 = H). I (R = Ac-Gly, R1 = H) was prepared by the 2nd strategy. Kinetic studies indicated that the thiolactone ring is probably necessary but not sufficient for the biol. reactivity of the metastable binding site of human C3b.

IT 80699-45-2P

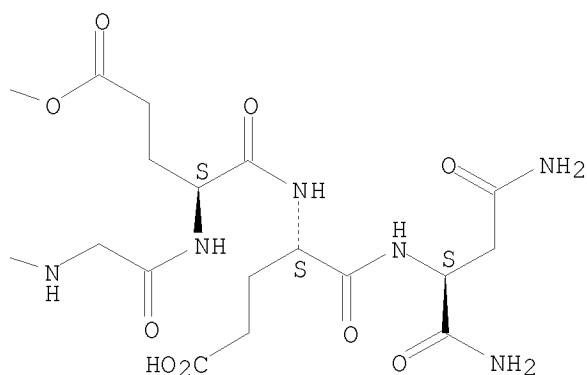
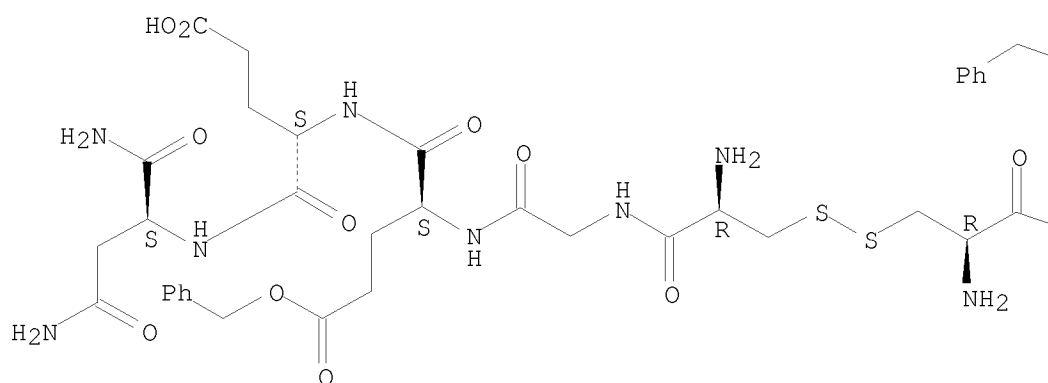
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and peptide coupling of, with acetylglycine)

RN 80699-45-2 CAPLUS

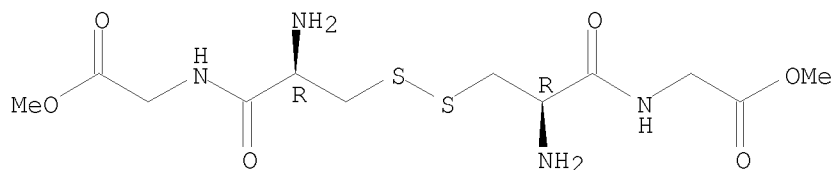
CN L-Aspartamide, L-cysteinylglycyl-L- α -glutamyl-L- α -glutamyl-, 3-(phenylmethyl) ester, bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 58255-69-9P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and peptide coupling of, with glycine derivative)
 RN 58255-69-9 CAPLUS
 CN Glycine, L-cysteinyl-, methyl ester, bimol. (1→1')-disulfide (9CI)
 (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 233 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1982:16835 CAPLUS
 DOCUMENT NUMBER: 96:16835
 ORIGINAL REFERENCE NO.: 96:2803a,2806a
 TITLE: Cystinylglycine in plasma: diagnostic relevance for
 pyroglutamic acidemia, homocystinuria, and

phenylketonuria
AUTHOR(S): Perry, Thomas L.; Hansen, Shirley
CORPORATE SOURCE: Dep. Pharmacol., Univ. British Columbia, Vancouver,
BC, V6T 1W5, Can.
SOURCE: Clinica Chimica Acta (1981), 117(1), 7-12
CODEN: CCATAR; ISSN: 0009-8981
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Cystinylglycine (I) was determined in blood plasma by cation-exchange chromatog., and its diagnostic value for several genetically determined disorders was assessed. I was absent from the plasma of a patient with pyroglutamic acidemia, and the peptide was either absent or greatly reduced in plasma from patients with homocystinuria. In the latter disorder, a different small peptide replaced I. It was identified as the mixed disulfide of homocysteine and cysteinylglycine. The mean plasma concentration of I was 13.6 $\mu\text{mol/L}$ in adult control subjects, and concns. of the mixed disulfide of homocysteine and cysteinylglycine ranged 2-10 $\mu\text{mol/L}$ in the plasma of homocystinuric patients. Failure to sep. I from phenylalanine with many rapid amino acid analyzer systems can lead to a misclassification of persons as heterozygotes for the phenylketonuria gene when heterozygosity testing is based on the phenylalanine/tyrosine molar ratio in fasting plasma.

IT 7729-20-6

RL: ANT (Analyte); ANST (Analytical study)

(determination of, in blood plasma by cation-exchange chromatog., diagnosis

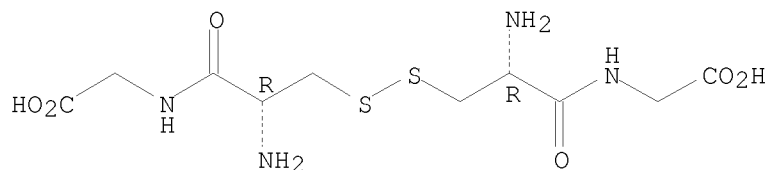
in

humans in relation to)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 234 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1981:604401 CAPLUS

DOCUMENT NUMBER: 95:204401

ORIGINAL REFERENCE NO.: 95:34173a,34176a

TITLE: A new method for specific nonenzymic cleavage of peptide chains after a semicystine residue

AUTHOR(S): Ivanov, Ch.; Mancheva, I.

CORPORATE SOURCE: Dep. Org. Chem., Higher Inst. Chem.-Technol., Sofia, 1156, Bulg.

SOURCE: Doklady Bolgarskoi Akademii Nauk (1981), 34(2), 193-6
CODEN: DBANAD; ISSN: 0366-8681

DOCUMENT TYPE: Journal

LANGUAGE: English

GI

H-Cys-Gly-D-Phe-Leu-Gly-D-Phe-Leu-OMe

H-Cys-Gly-D-Phe-Leu-Gly-D-Phe-Leu-OMe I

IT

[illegible]
$$\begin{array}{ccccccc} & \text{H}_2\text{N} & \text{O} & & \text{CH}_2-\text{Ph} & & \\ & | & || & & | & & \\ -\text{CH}_2-\text{S}-\text{S}-\text{CH}_2-\text{CH}-\text{C}-\text{NH}-\text{CH}_2-\text{C}-\text{NH}-\text{CH}-\text{C}-\text{NH}-\text{CH}-\text{Bu-i} \\ & & & & || & & | \\ & & & & \text{O} & & \text{C}-\text{NH}-\text{CH}_2-\text{C}-\text{NH}- \\ & & & & & & || & \\ & & & & & & \text{O} & \end{array}$$
$$\begin{array}{ccccccc} & & & & \text{O} & & \\ & & & & || & & \\ & & & & \text{C}-\text{OMe} & & \\ & & & & | & & \\ -\text{CH} & - & \text{C} & - & \text{NH} & - & \text{CH} & - & \text{Bu-i} \\ | & & || & & & & & & \\ \text{CH}_2-\text{Ph} & & & & & & & & \end{array}$$

L5 ANSWER 235 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1981:604394 CAPLUS
DOCUMENT NUMBER: 95:204394
ORIGINAL REFERENCE NO.: 95:34173a,34176a
TITLE: Nitrogen-15 NMR spectroscopy. 30. Structure/shift
relationships of oligopeptides and copolypeptides,
including gramicidin S
AUTHOR(S): Kricheldorf, Hans R.
CORPORATE SOURCE: Inst. Macromol. Chem., Univ. Freiburg, Freiburg/Br.,

D-7800, Fed. Rep. Ger.

SOURCE: Organic Magnetic Resonance (1981), 15(2), 162-77
CODEN: ORMABD; ISSN: 0030-4921

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The ^{15}N NMR of Z-X-X1-X1-OMe (Z = $\text{PhCH}_2\text{O}_2\text{C}$; X and X1 = amino acid residues) were recorded in protic and aprotic solvents. The shift differences in the ^{15}N NMR of the X1-X1 and X-X1 bonds were discussed with respect to the nature of the X and X1 residues and of the solvent. Z-X-X1-X1-OH and H-X-X1-X1-OMe were compared with the Z tripeptide esters in order to determine the effect of the protecting group. The ^{15}N NMR of the Me ester HCl salts of 25 amino acids were recorded in H_2O and DMSO in order to elucidate the solvent dependence of the substituent effects. These spectra were also compared with those of Z amino acids and N-acetyl amino acids in DMSO in order to establish whether or not the substituent effects were dependent on the amino acid derivs. The assignments of serine, threonine, and glycine signals were discussed with respect to silk proteins. Signals from copolypeptides were assigned by comparison with those from oligo- and homopolypeptides. Intramol. H bonds caused a downfield shift of 7-10 ppm in the signals of the acceptor amide groups.

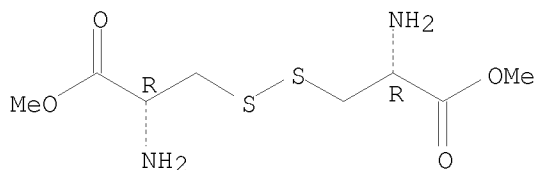
IT 22888-38-6

RL: PROC (Process)
(nitrogen-15 NMR of)

RN 22888-38-6 CAPLUS

CN L-Cystine, dimethyl ester, hydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.



●x HCl

L5 ANSWER 236 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1981:587680 CAPLUS

DOCUMENT NUMBER: 95:187680

ORIGINAL REFERENCE NO.: 95:31337a,31340a

TITLE: Cystine-containing peptides

INVENTOR(S): Kamber, Bruno; Rittel, Werner

PATENT ASSIGNEE(S): Ciba-Geigy Corp., USA

SOURCE: U.S., 10 pp. Cont. of U.S. Ser. No. 296,406,
abandoned.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4271068	A	19810602	US 1976-685857	19760513
PRIORITY APPLN. INFO.:			US 1969-818109	A2 19690421
			US 1972-296406	A1 19721010

GI For diagram(s), see printed CA Issue.

AB Cystine-containing peptides (e.g., oxytocin and vasopressin derivs.) were

prepared by the detritylation-disulfide coupling reaction of S-tritylcysteine-containing peptides by iodine. Thus, Me3CO2C-Cys(CPh3)-Tyr(CMe3)-Ile-Gln-Asn-Cys(CPh3)-Pro-Leu-Gly-NH2 was prepared by conventional methods in solution and then it was treated with iodine in MeOH to give oxytocin derivative I.

IT 32677-28-4P

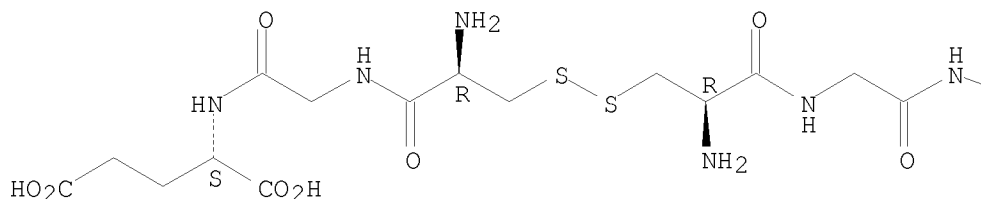
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 32677-28-4 CAPLUS

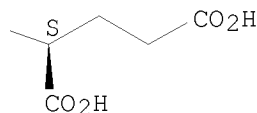
CN L-Glutamic acid, L-cysteinylglycyl-, bimol. (1→1')-disulfide (9CI)
(CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



L5 ANSWER 237 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1981:515543 CAPLUS

DOCUMENT NUMBER: 95:115543

ORIGINAL REFERENCE NO.: 95:19397a,19400a

TITLE: Hexahydrothienoimidazole intermediates for the synthesis of biotin

INVENTOR(S): Baggiolini, Enrico G.; Lee, Hsi L.; Uskokovic, Milan R.

PATENT ASSIGNEE(S): Hoffmann-La Roche, Inc., USA

SOURCE: U.S., 8 pp. Cont.-in-part of U.S. Ser. No. 965,660.
CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 5

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4247704	A	19810127	US 1979-43282	19790529
US 4130713	A	19781219	US 1977-822119	19770805
US 4245104	A	19810113	US 1978-965660	19781201
EP 19788	A2	19801210	EP 1980-102621	19800512
EP 19788	A3	19810722		
R: CH, DE, FR, GB, IT				
US 4284557	A	19810818	US 1980-150116	19800515
JP 55162788	A	19801218	JP 1980-69711	19800527

US 4320056	A	19820316	US 1981-243171	19810312
US 4382031	A	19830503	US 1981-324326	19811123
PRIORITY APPLN. INFO.:			US 1977-822119	A2 19770805
			US 1978-965660	A2 19781201
			US 1979-43282	A 19790529
			US 1980-150116	A3 19800515
			US 1981-243171	A3 19810312

GI

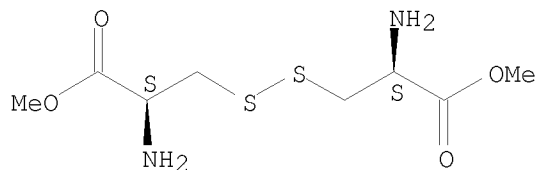
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Biotin derivs. I (R = CH₂Ph, α -alkylbenzyl; R₁ = OH, halo; R₂ = H, alkyl, CH₂Ph, α -alkylbenzyl, alkali metal, alkaline earth metal) were prepared Thus, DL-cystine di-Me ester was N-acylated with HC.tplbond.C(CH₂)₃COCl in CH₂Cl₂ containing pyridine to give 92.5% DL-cystine II, which was treated with 2N/HOAc and cyclized at room temperature for 100 h to

give 62% 1-thia-4-azacyclodec-9-ene III (R₃ = CO₂Me), which was reduced by AlH(CH₂CHMe₂)₂ to give III (R₃ = CHO). The latter was treated with PhCH₂NHOH to give 72% III [R₃ = CH:N(O)CH₂Ph], which was refluxed in toluene overnight to give the rac-[1R-(1 α , 7 α , 8 β , 11 β)] isomer of 10-oxa-12-thia-6,9-diazatricyclo[5.3.3.0^{8,11}]tridecane IV, which was reduced by Zn/HOAc and then treated with ClCO₂Me to give 70% of the rac-[1R-(1 α , 7 α , 8 α , 11 α)] isomer of 9-thia-2-azabicyclo[6.2.1]undecane V. V was cleaved by refluxing in aqueous Bu(OH)₂/dioxane for 5 h to give the rac-[3aS-[3a β , 4 α , 4(R*), 6a β]] isomer of 1H-thieno[3,4-d]imidazole rac-VI (R₄ = CH₂Ph, R₅ = OH, R₆ = Me), which was treated with MeSO₂Cl to give the O-methylsulfonyl derivative, which was treated with 1N HCl to give 63% rac-VI (R₄ = CH₂Ph, R₅ = Cl, R₆ = Me). The latter was dehydrochlorinated and saponified to give rac-VII, which was hydrogenated over Pd/C to give rac-VI (R₄ = CH₂Ph, R₅ = H, R₆ = H), which was esterified with CH₂N₂ to give 48% rac-VI (R₄ = CH₂Ph, R₅ = H, R₆ = Me). The latter was deblocked by refluxing in 48% HBr for 3 h to give 81% DL-biotin Me ester rac-VII (R₄ = R₅ = H, R₆ = Me).

IT 78271-08-6
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (acylation of, with hexynoyl chloride)
 RN 78271-08-6 CAPLUS
 CN Cystine, dimethyl ester (9CI) (CA INDEX NAME)

Relative stereochemistry.



L5 ANSWER 238 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1981:473172 CAPLUS
 DOCUMENT NUMBER: 95:73172
 ORIGINAL REFERENCE NO.: 95:12191a,12194a
 TITLE: Antiinflammatory properties of derivatives and
 sequence fragments of the MCD-peptide from bee venom
 AUTHOR(S): Hartter, Peter; Martin, Wolfgang

CORPORATE SOURCE: Physiol. Chem. Inst., Univ. Tuebingen, Tuebingen,
D-7400, Fed. Rep. Ger.

SOURCE: Struct. Act. Nat. Pept., Proc. Fall Meet. Ges. Biol.
Chem. (1981), Meeting Date 1979, 497-504. Editor(s):
Voelter, Wolfgang; Weitzel, Guenther. de Gruyter:
Berlin, Fed. Rep. Ger.
CODEN: 45VYAS

DOCUMENT TYPE: Conference

LANGUAGE: English

AB Mast cell degranulating peptide (MCD-peptide) [32908-73-9] from bee venom
exhibited antiinflammatory activity in the rat paw Carrageenan-induced
edema model. None of the MCD-peptide derivs. had antiinflammatory
activity and of the deprotected fragments tested, only the C-terminal
situated fragment exhibited antiinflammatory activity, as determined by the
125I-labeled rat serum albumin test. Thus, the antiinflammatory activity
of the MDC-peptide is determined by its high over all basicity and its special
structural characteristics such as the 2 disulfide bridges. Perhaps, the
C-terminal region of the peptide is essential for the antiinflammatory
activity.

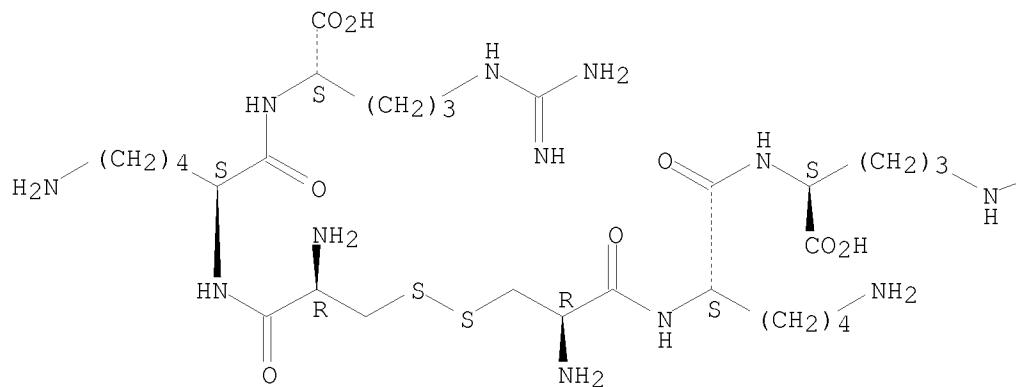
IT 74158-29-5
RL: BAC (Biological activity or effector, except adverse); BSU (Biological
study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES
(Uses)
 (antiinflammatory activity of, structure in relation to)

RN 74158-29-5 CAPLUS

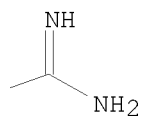
CN L-Arginine, L-cysteinyl-L-lysyl-, bimol. (1→1')-disulfide (9CI)
 (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

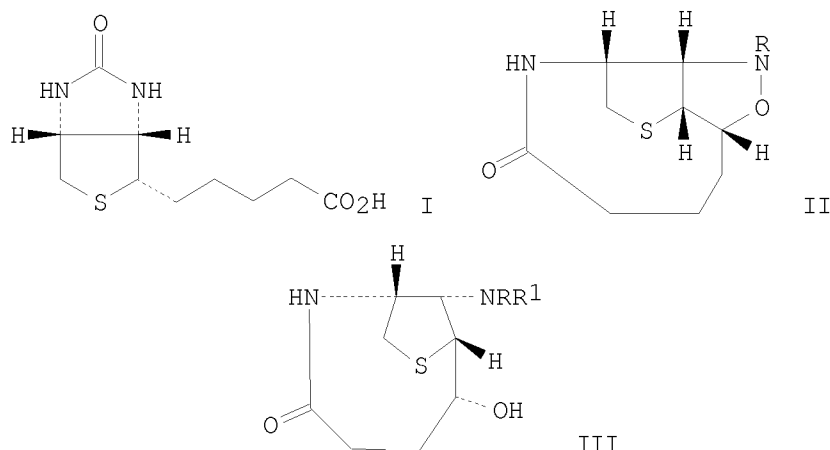


PAGE 1-B



ORIGINAL REFERENCE NO.: 95:10511a,10514a
 TITLE: Thiophene derivatives suited for the manufacture of biotin, and intermediates in this process
 INVENTOR(S): Baggioline, Enrico Giuseppe; Lee, Hsi Lin; Uskokovic, Milan Radoje
 PATENT ASSIGNEE(S): Hoffmann-La Roche, F., und Co. A.-G., Switz.
 SOURCE: Eur. Pat. Appl., 30 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 5
 PATENT INFORMATION:

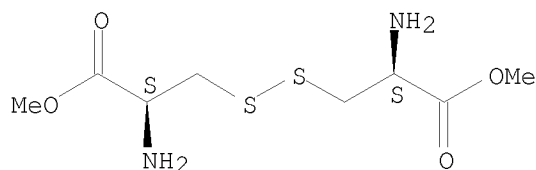
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 19788	A2	19801210	EP 1980-102621	19800512
EP 19788	A3	19810722		
R: CH, DE, FR, GB, IT				
US 4247704	A	19810127	US 1979-43282	19790529
PRIORITY APPLN. INFO.:			US 1979-43282	A 19790529
			US 1977-822119	A2 19770805
			US 1978-965660	A2 19781201
OTHER SOURCE(S):		MARPAT 95:62202		
GI				



AB Biotin (I) was prepared from L- and DL-cystine esters via the derivs. II and III (R = aryl, alkyl, R¹ = H, alkoxy carbonyl, aryloxy carbonyl, aralkoxy carbonyl). Thus, DL-biotin Me ester was prepared in 11 steps from DL-cystine di-Me ester via reductive cleavage of II (R = PhCH₂) to III (R = PhCH₂, R¹ = CO, Me).

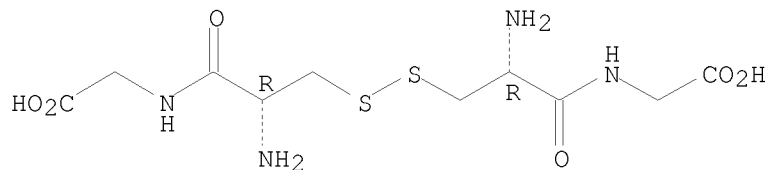
IT 78271-08-6
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with hexynoyl chloride)
 RN 78271-08-6 CAPLUS
 CN Cystine, dimethyl ester (9CI) (CA INDEX NAME)

Relative stereochemistry.



L5 ANSWER 240 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1981:452194 CAPLUS
 DOCUMENT NUMBER: 95:52194
 ORIGINAL REFERENCE NO.: 95:8727a,8730a
 TITLE: ESR parameters of copper(2+) ion in peptides
 AUTHOR(S): Misra, B. N.; Faujdar
 CORPORATE SOURCE: Dep. Phys., Allahabad Univ., Allahabad, 211 002, India
 SOURCE: Indian Journal of Pure and Applied Physics (1981),
 19(4), 376-9
 CODEN: IJOPAU; ISSN: 0019-5596
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The ground state wave function of Cu²⁺ ion in different complexes were
 evaluated and found to be x³-y² with a slight admixt. of the other excited
 states. The hyperfine interaction parameter P and the core polarization
 parameter x also determined
 IT 7729-20-6D, copper complexes
 RL: PRP (Properties)
 (ESR parameters of)
 RN 7729-20-6 CAPLUS
 CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 241 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1981:175535 CAPLUS
 DOCUMENT NUMBER: 94:175535
 ORIGINAL REFERENCE NO.: 94:28703a,28706a
 TITLE: Charge transfer in peptides. Effects of temperature,
 peptide length, and solvent conditions upon
 intramolecular one-electron reactions involving
 tryptophan and tyrosine
 AUTHOR(S): Pruetz, Walter A.; Land, Edward J.; Sloper, Robert W.
 CORPORATE SOURCE: Inst. Biophys. Strahlenbiol., Univ. Freiburg,
 Freiburg/Br., D-7800, Fed. Rep. Ger.
 SOURCE: Journal of the Chemical Society, Faraday Transactions
 1: Physical Chemistry in Condensed Phases (1981),
 77(2), 281-92
 CODEN: JCFTAR; ISSN: 0300-9599
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB H-Trp-(Gly)_n-Tyr-OH (I; n = 0, 1, 2) and cyclo(Trp-Tyr) (II) were oxidized
 selectively at the indole group by electron accepting radicals N₃• or
 Br₂-• in aqueous solution using pulse radiolysis. After the primary
 oxidation,

an efficient synchronous transformation of indolyl into phenoxy radicals occurred both in I and II. Rate consts. followed an empirical inverse-square distance relationship. Deprotonation of the OH group of tyrosyl and protonation of the indolyl moiety efficiently enhanced the radical transformation rates. Intermol. reactions between tryptophyl radical and tyrosyl were slow in neutral, acid, or alkaline solution. Low activation energy suggested that the observed intramol. radical transformations occurred by electron tunneling. However, the inverse square relationship and pH effects indicated the involvement of electronic interactions.

IT 7369-94-0 7729-20-6

RL: PRP (Properties)

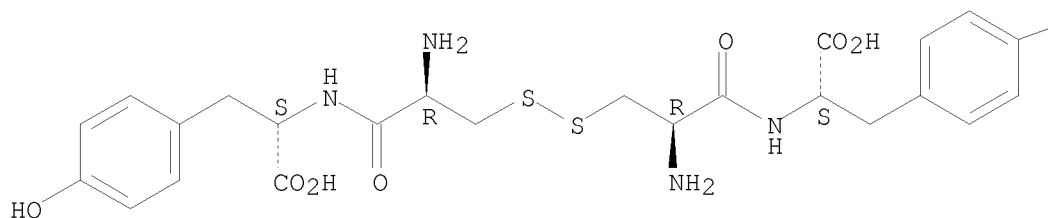
(charge transfer in, kinetics of)

RN 7369-94-0 CAPLUS

CN L-Tyrosine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



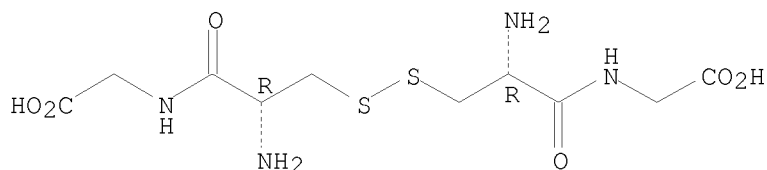
PAGE 1-B

—OH

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 242 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1981:175517 CAPLUS

DOCUMENT NUMBER: 94:175517

ORIGINAL REFERENCE NO.: 94:28702h,28703a

TITLE: Synthesis and biological activities of thyroliberin (TRH) analogs with cysteine or cysteine derivatives in position one or two

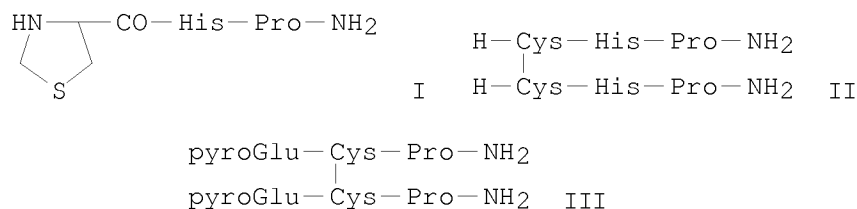
AUTHOR(S): Bjoerkman, Sven; Castensson, Staffan; Isacson, Dag; Karlsson, Jan Anders; Sievertsson, Hans; Bowers, Cyril Y.

CORPORATE SOURCE: Biomed. Cent., Univ. Uppsala, Uppsala, S-751 23, Swed.

SOURCE: Acta Pharmaceutica Suecica (1980), 17(6), 297-306

CODEN: APSXAS; ISSN: 0001-6675

DOCUMENT TYPE: Journal
LANGUAGE: English
GI



AB Title analogs H-Cys-His-Pro-NH₂, pyroGlu-Cys(R)-Pro-NH₂ (R = H, CPh₃), thiazolidine peptide I, and cystine peptides II and III were prepared by conventional methods in solution. The above analogs had marginal in vitro thyrotropin-releasing activities.

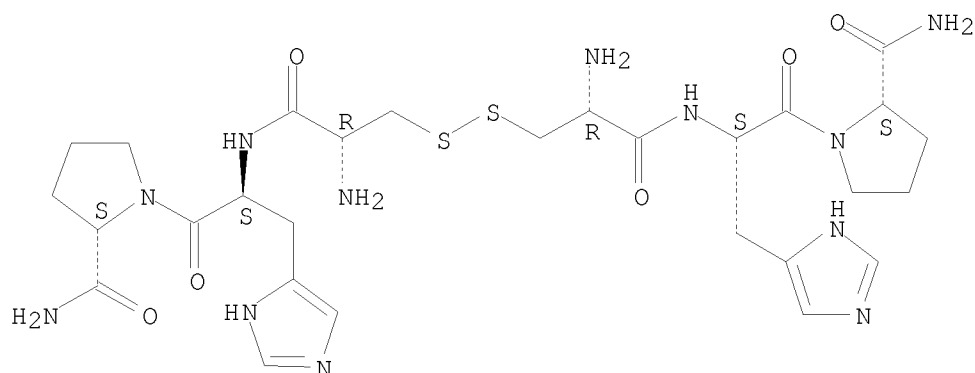
IT 77327-62-9P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and thyrotropin-releasing activity of)

RN 77327-62-9 CAPLUS

CN L-Prolinamide, L-cysteinyl-L-histidyl-, bimol. (1→1')-disulfide
(9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 243 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1981:95731 CAPLUS

DOCUMENT NUMBER: 94:95731

ORIGINAL REFERENCE NO.: 94:15435a,15438a

TITLE: Phosphono-peptide antibacterial agents related to alafosfalin: design, synthesis, and structure-activity relationships

AUTHOR(S): Atherton, Frank R.; Hall, Michael J.; Hassall, Cedric H.; Holmes, Simon W.; Lambert, Robert W.; Lloyd, William J.; Ringrose, Peter S.

CORPORATE SOURCE: Roche Prod. Ltd., Welwyn Garden City/Hertfordshire, AL7 3AY, UK

SOURCE: Antimicrobial Agents and Chemotherapy (1980), 18(6), 897-905

CODEN: AMACCQ; ISSN: 0066-4804

DOCUMENT TYPE: Journal

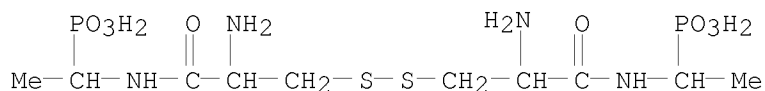
LANGUAGE: English

AB Dipeptide variants of alafosfalin (L/alanyl-L-1-aminoethylphosphonic acid) with substantial differences in potency and antibacterial spectrum in vitro and in vivo were synthesized. Certain dipeptides with alternatives to the L-alanyl residue had broader antibacterial spectra; activity against *Pseudomonas aeruginosa* was included. Some compds. had better in vivo activity than alafosfalin when introduced into infected rodents orally, but for the majority of the more active phosphonodipeptides, parenteral administration was more effective. Certain oligopeptides derived from the more active phosphonodipeptides possessed good in vitro activity against an extended range of organisms; they included *Haemophilus influenzae*, *Streptococcus faecalis*, and *S. pneumoniae*. The in vivo activity of some of these phosphono-oligopeptides was significantly greater than that of the parent dipeptide and correlated well with the in vitro results. This indicates that phosphono-oligopeptides exert part of their in vivo action directly, in addition to that arising from smaller peptides produced by peptidase cleavage.

IT 76620-80-9P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation and bactericidal activity of)

RN 76620-80-9 CAPLUS

CN Phosphonic acid, [dithiobis[(2-amino-1-oxo-3,1-propanediyl)iminoethylidene]]bis-, stereoisomer (9CI) (CA INDEX NAME)



L5 ANSWER 244 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1980:616872 CAPLUS

DOCUMENT NUMBER: 93:216872

ORIGINAL REFERENCE NO.: 93:34555a,34558a

TITLE: Synthesis of peptide spin-labels that bind to neurophysin and their application to distance measurements within neurophysin complexes

AUTHOR(S): Lord, Susan T.; Breslow, Esther

CORPORATE SOURCE: Dep. Biochem., Cornell Univ. Med. Coll., New York, NY, 10021, USA

SOURCE: Biochemistry (1980), 19(24), 5593-602

CODEN: BICHAW; ISSN: 0006-2960

DOCUMENT TYPE: Journal

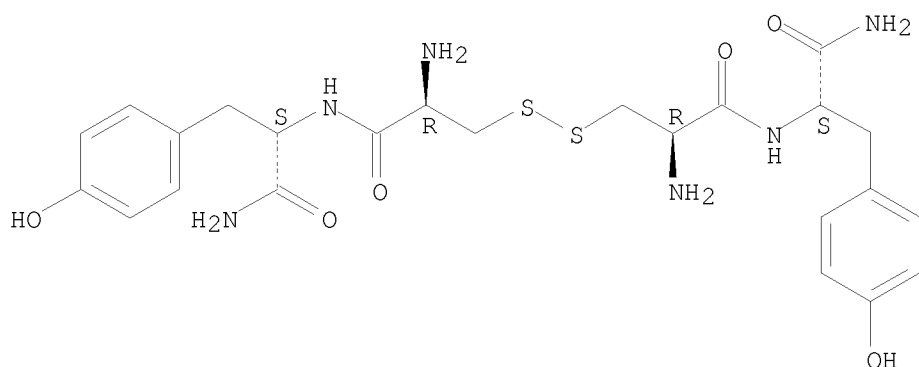
LANGUAGE: English

AB The synthesis of 2 spin-labels capable of binding to the hormone-binding site(s) of neurophysin is described. The 2 spin-labels are 4-(glycyl-L-phenylalanylamido)-2,2,6,6-tetramethylpiperidiny-1-oxy and S-[[[3-(2,2,5,5-tetramethylpyrrolidine-1-oxy)amino]carbonyl]methyl]-L-cysteine-L-tyrosine amide; synthesis of the former is achieved by a novel route to circumvent problems associated with nitroxide instability under standard conditions of peptide deblocking. NMR studies of the effects of binding these spin-labels on relaxation rates of individual proton resonances of neurophysin were used to calculate correlation times and distances between the bound nitroxides and the observed protons. The results indicate that residue 3 of peptides bound to the strong site of neurophysin is ≥ 14 Å from tyrosine-49 and argue against a previously suggested proximity of the ortho ring protons of tyrosine-49 to those of residue 2 of peptides bound to the strong site. Alternatively, the data suggest that the previously observed nuclear Overhauser effect between these protons reflects spin diffusion at the strong site and a contribution of uncertain magnitude

from a 2nd but very weak binding site; this 2nd site is close to tyrosine-49 and is detected by the increased relaxation rate of tyrosine-49 ring protons when 4-(glycyl-L-phenylalanylamido)-2,2,6,6-tetramethylpiperidiny-1-oxy is displaced from the strong site by competing diamagnetic peptide. Addnl., the data indicate that residue 3 of bound peptides at the strong site is distant from histidine-80 but .apprx.12 Å from the N-terminus. The extended side chain of residue 1 of peptides at the strong site is calculated as ≤10 Å from tyrosine-49.

IT 52329-45-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reduction of)
 RN 52329-45-0 CAPLUS
 CN L-Tyrosinamide, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



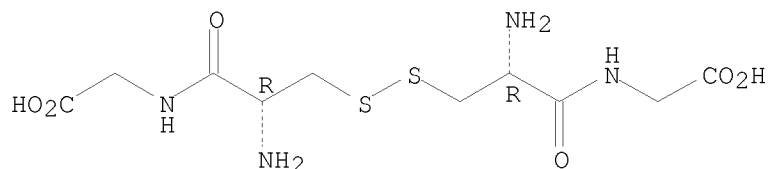
L5 ANSWER 245 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1980:563716 CAPLUS
 DOCUMENT NUMBER: 93:163716
 ORIGINAL REFERENCE NO.: 93:26033a,26036a
 TITLE: High-performance liquid chromatography analysis of nanomole levels of glutathione, glutathione disulfide, and related thiols and disulfides
 AUTHOR(S): Reed, D. J.; Babson, J. R.; Beatty, P. W.; Brodie, A. E.; Ellis, W. W.; Potter, D. W.
 CORPORATE SOURCE: Dep. Biochem. Biophys., Oregon State Univ., Corvallis, OR, 97331, USA
 SOURCE: Analytical Biochemistry (1980), 106(1), 55-62
 CODEN: ANBCA2; ISSN: 0003-2697
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB A rapid and sensitive high-performance liquid chromatog. method is described for the determination of nanomole levels of glutathione disulfide, cysteine glutathione-mixed disulfide, and 20 related S-containing amino acids or their derivs. The procedure is based upon the initial formation of S-carboxymethyl derivs. of free thiols with iodoacetic acid followed by conversion of free amino groups to 2,4-dinitrophenyl derivs. by reaction with 1-fluoro-2,4-dinitrobenzene. Chromatog. of the reaction mixture without sample isolation is on a 3-aminopropylsilane-derivatized silica column and elution with a NaOAc or NH4OAc gradient in H2O-MeOH-HOAc solvent at pH 4.5. Determination of nanomole levels of glutathione, glutathione disulfide, and cysteine glutathione-mixed disulfide in biol. samples is described.
 IT 7729-20-6

RL: ANT (Analyte); ANST (Analytical study)
(determination of, by high-performance liquid chromatog.)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 246 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1980:555888 CAPLUS

DOCUMENT NUMBER: 93:155888

ORIGINAL REFERENCE NO.: 93:24739a,24742a

TITLE: Mass spectra of lanthionine and
β-methylanthionine isolated from gardimycin
AUTHOR(S): Zerilli, Luigi Franco; Tuan, Giorgio; Turconi, Marco;
Coronelli, Carolina

CORPORATE SOURCE: Lab. Ric., Lepetit S.p.A., Milan, I-20158, Italy
SOURCE: Annali di Chimica (Rome, Italy) (1977), 67(9-12),
691-7

CODEN: ANCRAI; ISSN: 0003-4592

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Lanthionine [922-55-4] and β-methylanthionine [4740-95-8] were
isolated by column chromatog. from the acid hydrolyzate and gardimycin, a
new peptide antibiotic, and identified by electron-impact mass
spectrometry after esterification with EtOH. Their peculiar
fragmentations are discussed in detail and compared with those of cystine.

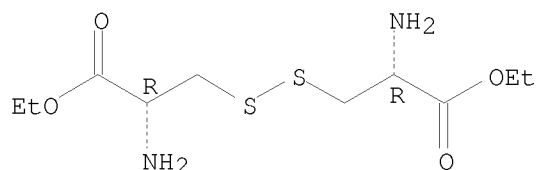
IT 74985-80-1

RL: PRP (Properties)
(mass spectra of)

RN 74985-80-1 CAPLUS

CN L-Cystine, 1,1'-diethyl ester, hydrochloride (1:?) (CA INDEX NAME)

Absolute stereochemistry.



● x HCl

L5 ANSWER 247 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1980:545415 CAPLUS

DOCUMENT NUMBER: 93:145415

ORIGINAL REFERENCE NO.: 93:23131a,23134a

TITLE: Rates of thiol-disulfide interchange reactions
involving proteins and kinetic measurements of thiol
pKa values

AUTHOR(S): Shaked, Ze'ev; Szajewski, Richard P.; Whitesides, George M.
CORPORATE SOURCE: Dep. Chem., Massachusetts Inst. Technol., Cambridge, MA, 02139, USA
SOURCE: Biochemistry (1980), 19(18), 4156-66
CODEN: BICHAW; ISSN: 0006-2960
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Broensted coeffs. were determined for the rates of thiol-disulfide interchange between low-mol.-weight thiols and the SS groups of 4 native or modified proteins: DNase, lysozyme, and thiol-group-modified adenylate kinase (SSCH₃)₂ and papain(SSCH₃). These values were similar to those observed for redns. of GSSG and Ellman's reagent by a similar set of thiols. GSH is anomalously slow in reduction of certain protein SS groups; although this effect may in part reflect steric hindrance to attack by the relatively large GSH mol. at disulfides shielded by protein tertiary structure, other (presently undefined) factors appear also to be important, at least in the case of DNase. The rates of reduction of several SS derivs. of papain(SSR) by dithiothreitol were determined. These data provide ests. of the Broensted coefficient for the central thiol in thiol-disulfide interchange. Rates of reduction of protein disulfide moieties were analyzed with a Broensted equation developed previously (Szajewski, R. P. and Whitesides, G. M., 1980) to yield pK_a values for the participating thiol moieties, in particular, for papain, pK_a(Cys-25) = 8.4 at pH 9 and pK_a(Cys-25) = 4.1 at pH 6. The thiols of the structurally essential cysteine group of lysozyme seem to have a pK_a .simeq. 11. The advantages and disadvantages of this method for estimating thiol pK_a values are discussed. Precautions against violent reactions in the preparation of methanethiolsulfonates are described.

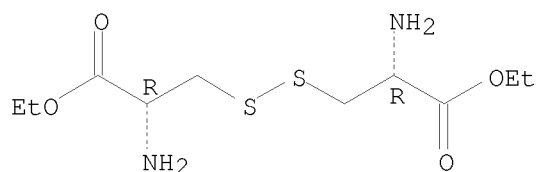
IT 583-89-1

RL: BIOL (Biological study)
(thiol-disulfide interchange by, kinetics of, thiol acid dissociation constant in relation to)

RN 583-89-1 CAPLUS

CN L-Cystine, 1,1'-diethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 248 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1980:525439 CAPLUS

DOCUMENT NUMBER: 93:125439

ORIGINAL REFERENCE NO.: 93:19841a,19844a

TITLE: The inhibition of γ -glutamyl transpeptidase and glutathione metabolism of isolated rat kidney cells by L-(α S,5S)- α -amino-3-chloro-4,5-dihydro-5-isoxazoleacetic acid (AT-125; NSC-163501)

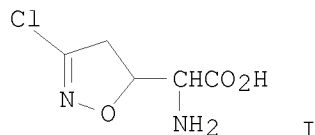
AUTHOR(S): Reed, Donald J.; Ellis, William W.; Meck, Robert A.
CORPORATE SOURCE: Dep. Biochem. Biophys., Oregon State Univ., Corvallis, OR, 97331, USA

SOURCE: Biochemical and Biophysical Research Communications (1980), 94(4), 1273-7
CODEN: BBRCA9; ISSN: 0006-291X

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



AB Metabolism of extracellular GSH [70-18-8], GSSG [27025-41-8], the mixed disulfide of cysteine and GSH (CYSSG) [13081-14-6], and cystinyl-bis-glycine (CYS-GLY)₂ [7729-20-6] to cysteine and cystine by freshly isolated kidney cells was examined with and without the presence of a potent γ -glutamyl transpeptidase [9046-27-9] inhibitor, AT-125 (I) [42228-92-2]. Irreversible inactivation of γ -glutamyl transpeptidase occurred rapidly which prevented both the conversion of GSH to GSSG and removal of γ -glutamyl moieties from GSH, GSSG, and CYSSG by kidney cells. The rapid conversion of cystinyl-bis-glycine to cystine was not affected by AT-125, indicating that this agent had no effect upon cysteinylglycine dipeptidase activity. GSH and GSSG degradation intermediates were sufficiently different to suggest that important thiol disulfide interchange reactions may occur during GSH but not GSSG degradation by kidney cells.

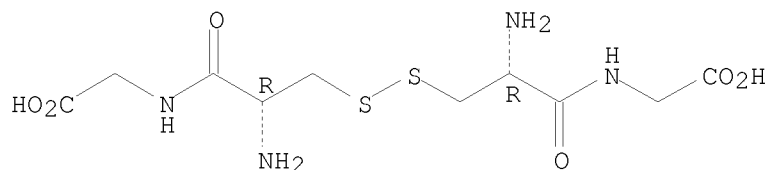
IT 7729-20-6

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(metabolism of, by kidney, aminochlorodihydroisoxazoleacetic acid effect on)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 249 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1980:509667 CAPLUS

DOCUMENT NUMBER: 93:109667

ORIGINAL REFERENCE NO.: 93:17509a,17512a

TITLE: Kinetics of thymidylate synthase inhibition by disulfides

AUTHOR(S): Aull, John L.; Daron, Harlow H.

CORPORATE SOURCE: Dep. Chem., Auburn Univ., Auburn, AL, 36830, USA

SOURCE: Biochimica et Biophysica Acta, Enzymology (1980), 614(1), 31-9

CODEN: BBEZAD; ISSN: 0924-1086

DOCUMENT TYPE: Journal

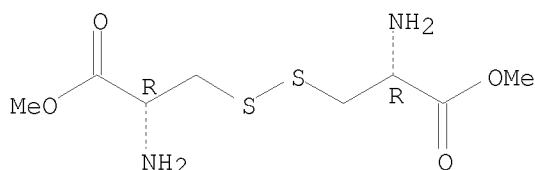
LANGUAGE: English

AB The inactivation of thymidylate synthase (EC 2.1.1.45) by a number of disulfides was examined and found to be a 2nd-order process. The apparent 2nd-order rate constant was strongly influenced by the chemical structure of the disulfide. Neg. charged functional groups appeared to decrease the reactivity of the disulfides and pos. charged groups apparently enhance the reactivity. GSSG did not react with noncatalytic SH groups, since the number of SH groups of both GSSG-treated and untreated thymidylate synthase

was the same. Several SH compds. were tested for their ability to reactivate thymidylate synthase that had been inhibited by 2,2'-dithiodipyridine. Complete reactivation was obtained with either dithiothreitol or 2-mercaptoethanol. Reactivation by 2-mercaptoethanol was a 2nd-order process.

IT 1069-29-0
RL: BIOL (Biological study)
(thymidylate synthase inhibition by, kinetics of)
RN 1069-29-0 CAPLUS
CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.

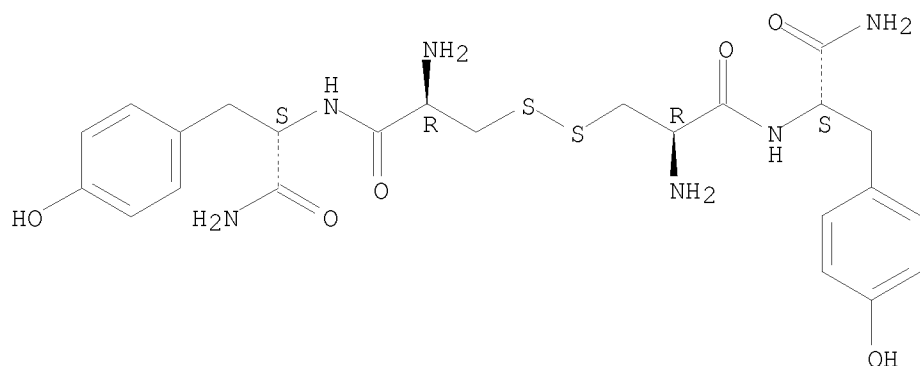


L5 ANSWER 250 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1980:489109 CAPLUS
DOCUMENT NUMBER: 93:89109
ORIGINAL REFERENCE NO.: 93:14163a,14166a
TITLE: Thermodynamics and kinetics of bovine neurophysins binding to small peptide analogs of oxytocin and vasopressin
AUTHOR(S): Pearlmutter, A. Frances; Dalton, Ellen J.
CORPORATE SOURCE: Dep. Biochem., Med. Coll. Ohio, Toledo, OH, 43699, USA
SOURCE: Biochemistry (1980), 19(15), 3550-6
CODEN: BICHAW; ISSN: 0006-2960
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Thermodyn. binding consts. for the interactions of mononitrated neurophysins with oxytocin [50-56-6], lysine-vasopressin [50-57-7], and peptide analogs of the hormones were determined using a spectrophotometric titration technique. The data were fitted to a binding model which included all known interactions in these systems. An examination of the free energies for the binding reaction suggested that residues 1-3 contribute 84% of the binding energy for formation of the neurophysin dimer mono complex, and 79% for the formation of the bis complex. Rate consts. for complex formation and dissociation with native bovine neurophysin were determined using temp-jump relaxation. The association rate consts. for neurophysin dimer binding to oxytocin, vasopressin, and the peptide analogs were all in the range of 1.3×10^{-6} M for mono complexation and 1.5×10^{-6} Ms for bis complexation. On the other hand, a clear distinction in dissociation rate consts. was apparent when the hormones were compared with the peptide analogs. There was approx. a 10-fold increase in overall dissociation rate constant for the peptides compared to the hormones. Thus, the rate-determining step in the association reaction involves the 1st 2 or 3 residues on the hormone. After the initial binding takes place, only with intact hormone, i.e., oxytocin or vasopressin, can addnl. bonding interactions in the complex take place. These addnl. interactions are reflected in the slower off-rate of the hormone complexes relative to the peptide complexes.

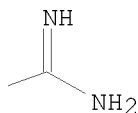
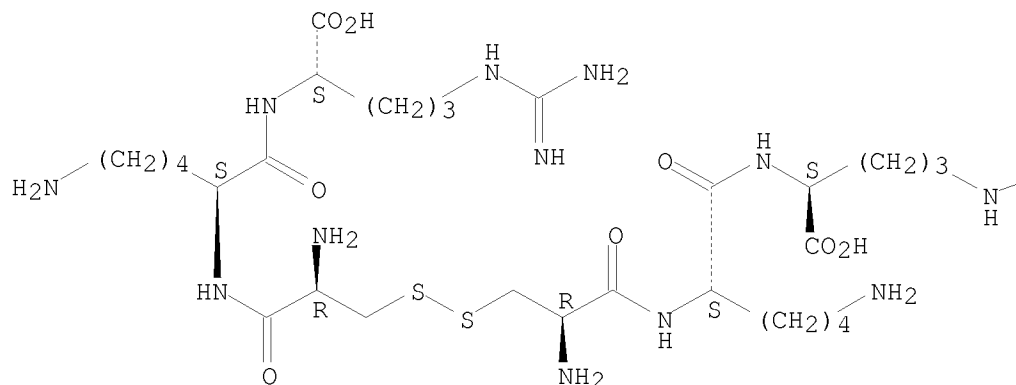
IT 52329-45-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 52329-45-0 CAPLUS
CN L-Tyrosinamide, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 251 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1980:461028 CAPLUS
DOCUMENT NUMBER: 93:61028
ORIGINAL REFERENCE NO.: 93:9779a,9782a
TITLE: Basic peptides in bee venom. VI. Structure-activity studies on the anti-inflammatory effects of derivatives and fragments of the MCD-peptide
AUTHOR(S): Martin, Wolfgang; Hartter, Peter
CORPORATE SOURCE: Physiol.-Chem. Inst., Univ. Tuebingen, Tuebingen, D-7400, Fed. Rep. Ger.
SOURCE: Hoppe-Seyler's Zeitschrift fuer Physiologische Chemie (1980), 361(4), 525-35
CODEN: HSZPAZ; ISSN: 0018-4888
DOCUMENT TYPE: Journal
LANGUAGE: German
AB The antiinflammatory activity of mast cell degranulating peptide (I) [32908-73-9] of bee venom, its derivs., and some of its fragments, were evaluated for antiinflammatory activity in α -carrageenin-induced inflammation in mice. I (1 mg/kg) had 87% antiinflammatory activity, whereas the bee venom peptides, apamin and melittin, had very little activity. The dimer disulfide peptide [74158-31-9] of the C-terminal region of I had 55% antiinflammatory activity. Structure-activity relations are discussed.
IT 74158-29-5
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(antiinflammatory activity of)
RN 74158-29-5 CAPLUS
CN L-Arginine, L-cysteinyl-L-lysyl-, bimol. (1 \rightarrow 1')-disulfide (9CI)
(CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 252 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1980:213402 CAPLUS

DOCUMENT NUMBER: 92:213402

ORIGINAL REFERENCE NO.: 92:34567a,34570a

TITLE: The mitogenic principle of Escherichia coli lipoprotein: B-lymphocyte mitogenicity of N-palmitoylcysteine and N-palmitoylglutamic acid α -methyl esters

AUTHOR(S): Cybulla, J.; Brueckner, H.; Jung, G.; Wipperfuhrer, T.; Bessler, W. G.

CORPORATE SOURCE: Inst. Org. Chem., Univ. Tuebingen, Tuebingen, Fed. Rep. Ger.

SOURCE: Biochemical and Biophysical Research Communications (1980), 92(4), 1389-96

CODEN: BBRC9; ISSN: 0006-291X

DOCUMENT TYPE: Journal

LANGUAGE: English

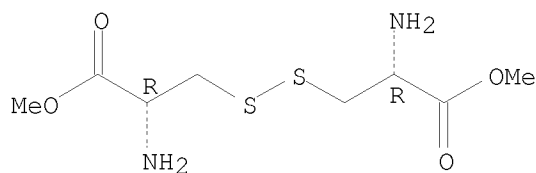
AB N-Palmitoyl-cysteine Me ester and N-palmitoyl-glutamic acid α -Me ester, which are analogs to the lipophilic N-terminal part of the lipoprotein from the outer membrane of Escherichia coli, were synthesized and tested for biol. activity in an vitro lymphocyte culture system. In spleen cells from several inbred mouse strains, the fatty acid derivs. exhibited mitogenic activity towards B-lymphocytes comparable to the effect of lipoprotein, as measured by thymidine-3H incorporation and by hemolytic plaque assays. These results confirm former investigations, which have shown that the mitogenic principle of the lipoprotein mol. resides in its N-terminal fatty acid-containing part. The proper dispersion of the water-insol. substances was critical for their mitogenic activity. Optimal mitogenicity was obtained by sonicating the substances at concentration of 0.1 mg/mL in culture medium.

IT 32854-09-4

RL: RCT (Reactant); RACT (Reactant or reagent)
(acylation of)

RN 32854-09-4 CAPLUS
CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

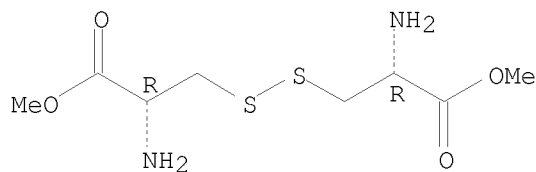
Absolute stereochemistry.



● 2 HCl

L5 ANSWER 253 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1980:71401 CAPLUS
DOCUMENT NUMBER: 92:71401
ORIGINAL REFERENCE NO.: 92:11693a,11696a
TITLE: A spectrophotometric method for studying the rates of reaction of disulfides with protein thiol groups applied to bovine serum albumin
AUTHOR(S): Wilson, Janet M.; Wu, Dorothy; Motiu-DeGrood, Rossana; Hupe, D. J.
CORPORATE SOURCE: Dep. Chem., Univ. Michigan, Ann Arbor, MI, 48109, USA
SOURCE: Journal of the American Chemical Society (1980), 102(1), 359-63
CODEN: JACSAT; ISSN: 0002-7863
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Protein thiol groups that are buried often react slowly with 5,5'-dithiobis(2-nitrobenzoic acid) (ESSE). The site at which these thiol groups reside may be studied kinetically by using mixts. of ESSE and another disulfide, RSSR, which does not produce a chromophore. If RSSR competes successfully for the protein thiol group, the RSH generated reacts with ESSE to produce ES-. The rate of reaction of a variety of disulfides with the protein may be determined. This method was applied to bovine serum albumin (BSA) and a large variation in rate was found, depending upon the structure of the disulfide. After appropriate corrections for the inherent reactivity of the disulfide, a clear picture of the favorability of the interaction of the R group on RSSR with the thiol site arose. The data for BSA suggest that the thiol sits in a constricted hydrophobic site. A β -amino group on the disulfide increases the rate, presumably by an internal ion pair formation. The physiol. role of the thiol function is apparently not to react with the cystine or oxidized glutathione.
IT 1069-29-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with albumin, thiol group site structure in relation to)
RN 1069-29-0 CAPLUS
CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 254 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1980:18197 CAPLUS

DOCUMENT NUMBER: 92:18197

ORIGINAL REFERENCE NO.: 92:3091a,3094a

TITLE: Ion-exchange chromatography of sulfur amino acids on a single-column amino acid analyzer

AUTHOR(S): Friedman, Mendel; Noma, Amy T.; Wagner, Joseph R.

CORPORATE SOURCE: WRRC, Sci. Educ. Adm., Berkeley, CA, 94710, USA

SOURCE: Analytical Biochemistry (1979), 98(2), 293-304

CODEN: ANBCA2; ISSN: 0003-2697

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Examination of the extent of production of the ninhydrin-colored derivative, Ruhemann's

purple, under automated conditions of a single-column amino acid analyzer by several classes of S-containing amino acids revealed a wide variation in the color factors relative to leucine. These ranged from 0.02 for the Me ester of cysteine to 2.19 for D-homocystine. Color yields obtained by the manual ninhydrin reaction are generally lower than the corresponding values obtained on the amino acid analyzer. The elution positions ranged from 5.12 min for cysteic acid to 84.9 min for L-cystine di-Me ester. The observed behavior of these compds. in the ninhydrin reaction is rationalized in terms of structural and electronic factors which they exhibit in reacting with ninhydrin to form the visible dye. Such an anal. should make it possible to predict ninhydrin color factors, and possibly also elution times, of structurally related compds.

IT 32854-09-4

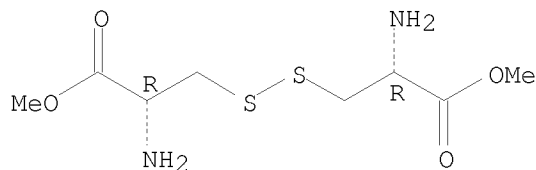
RL: ANST (Analytical study)

(ion-exchange chromatog. and ninhydrin color reaction of, in analyzer)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 255 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1979:611831 CAPLUS

DOCUMENT NUMBER: 91:211831

ORIGINAL REFERENCE NO.: 91:34149a,34152a

TITLE: Cysteine-containing peptides

INVENTOR(S): Koenig, Wolfgang

PATENT ASSIGNEE(S): Hoechst A.-G., Fed. Rep. Ger.

SOURCE: Ger. Offen., 46 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2801175	A1	19790719	DE 1978-2801175	19780112
EP 3122	A1	19790725	EP 1979-100048	19790109
EP 3122	B1	19810429		
R: BE, CH, DE, FR, GB				
US 4212796	A	19800715	US 1979-2347	19790110
DK 7900123	A	19790713	DK 1979-12379	19790111
HU 23604	A2	19820928	HU 1979-HO2129	19790111
HU 180787	B	19830429		
DK 148303	B	19850603	DK 1979-123	19790111
JP 54100321	A	19790808	JP 1979-1410	19790112
PRIORITY APPLN. INFO.:			DE 1978-2801175	19780112

OTHER SOURCE(S): MARPAT 91:211831

AB Human insulin A-chain tetrasulfate, H-Gly-Ile-Val-Gln-Cys(SO₃H)-Cys(SO₃H)-Thr-Ser-Ile-Cys(SO₃H)-Ser-Leu-Tyr-Gln-Leu-Glu-Asn-Tyr-Cys(SO₃H)-Asn-OH (I), was prepared by cleaving S-trityl protective groups from cysteine residues by CF₃CO₂H in the presence of a mercaptan. Thus, Ddz-Leu-Glu(OCMe₃)-Asn-Tyr(CMe₃)-OH [Ddz = 3,5-(MeO)2C₆H₃CM₂O₂C] was coupled to H-Cys(Trt)-Asn-OCMe₃ (Trt = CPh₃) by dicyclohexylcarbodiimide (DCC)/hydroxybenzotriazole (HOBT) to give the hexapeptide, which was Ddz-deblocked and coupled to Ddz-Tyr(CMe₃)-Gln-OH by DCC/HOBT to give the octapeptide, which was Ddz-deblocked and coupled to Ddz-Ile-Cys(Trt)-Ser-Leu-OH by DCC/HOBT to give Ddz-Ile-Cys(Trt)-Ser-Leu-Tyr(CMe₃)-Gln-Leu-Glu(OCMe₃)-Asn-Tyr(CMe₃)-Cys(Trt)-Asn-OCMe₃ (II). II was Ddz-deblocked and coupled to Ddz-Cys(Trt)-Cys(Trt)-Thr(CMe₃)-Ser(CMe₃)-OH by DCC/HOBT to give the hexadeca-peptide, which was Ddz-deblocked and coupled to Ddz-Gly-Ile-Val-Glu(OCMe₃)-OH by DCC/HOBT to give protected insulin A-chain, which was Ddz-deblocked by 5% CF₃CO₂H/CH₂Cl₂ to give H-Gly-Ile-Val-Glu(OCMe₃)-Gln-Cys(Trt)-Cys(Trt)-Thr(CMe₃)-Ser(CMe₃)-Ile-Cys(Trt)-Ser-Leu-Tyr(CMe₃)-Gln-Leu-Glu(OCMe₃)-Asn-Tyr(CMe₃)-Cys(Trt)-Asn-OCMe₃.CF₃CO₂H (III). III was deblocked by CF₃CO₂H/EtSH to give insulin A-chain, which was sulfonated to give I.

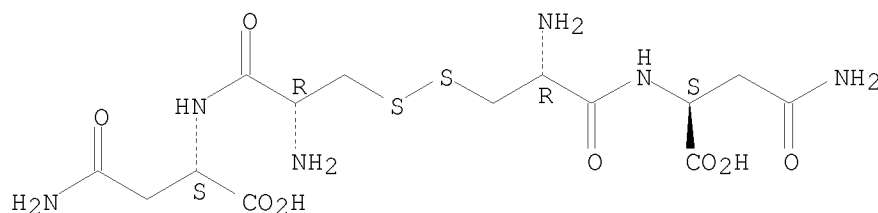
IT 32677-27-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 32677-27-3 CAPLUS

CN L-Asparagine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA
INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 256 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1979:604243 CAPLUS

DOCUMENT NUMBER: 91:204243

ORIGINAL REFERENCE NO.: 91:32758h,32759a

TITLE: The effect of sulfhydryl and amino group reagents on the functional properties of human erythrocytes: possible applications in sickle cell anemia therapy

AUTHOR(S): Antonini, Eraldo; Currell, Douglas L.; Ioppolo, Carmela; Giardina, Bruno; Benitez, Erma; Condo,

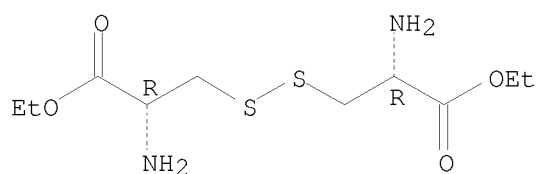
Saverio; Bertollini, Alberto
 CORPORATE SOURCE: Fac. Med., Univ. Rome, Rome, Italy
 SOURCE: INSERM Symposium (1979), Volume Date 1978, 9 (Dev. Ther. Agents Sick Cell Dis.), 155-68
 CODEN: INSSDM; ISSN: 0378-0546
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Eight disulfide reagents reacted with β -93 sulfhydryls of both free and intraerythrocytic Hb and increased its O affinity in phosphate buffer. The Bohr effect was reduced but cooperative effects in O binding were essentially unaffected by the treatment. The effect of 2,3-diphosphoglycerate (2,3-DPG) on the O affinity of the reacted Hb was reduced. Untreated Hb and Hb treated with L-cystine di-Me ester [1069-29-0] showed identical O affinities in the absence of phosphate. No differences in the O binding properties were observed between treated erythrocytes and modified free Hb. Methb reductase [9032-80-8] activity drastically decreased in erythrocytes treated with disulfide reagents, suggesting a possible adverse effect on the enzyme system of the cell. No hemolysis was observed except for the L-cystine di-tert-butyl [71861-67-1] and di-n-Bu esters [62574-13-4] which produced extensive hemolysis. Preliminary investigations of possible applications in sickle cell anemia therapy indicated that cystine di-Me ester shows antisickling properties and that its toxicity is relatively low. Human Hb reacted with 2-methoxy-5-nitro tropone (MNT) [14628-90-1] at pH 7.4 showed increased O affinity with complete abolition of the effect of 2,3-DPG. The Bohr effect was abolished in the acid range and drastically reduced at alkaline pH value. Cooperative effects were still present. Human erythrocytes treated with MNT showed increased O affinity and some decrease in methb reductase efficiency but no change in resistance to hemolysis. Preliminary expts. indicated that MNT also shows antisickling properties.

IT 583-89-1 1069-29-0 62574-13-4
 71861-65-9 71861-66-0 71861-67-1
 RL: BIOL (Biological study)
 (in sickle cell anemia treatment)

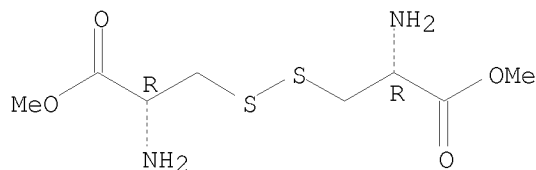
RN 583-89-1 CAPLUS
 CN L-Cystine, 1,1'-diethyl ester (CA INDEX NAME)

Absolute stereochemistry.



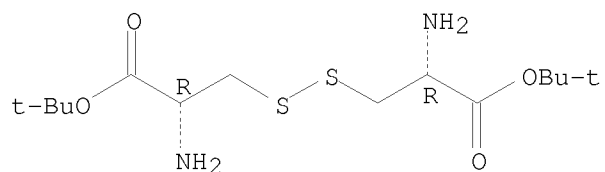
RN 1069-29-0 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



RN 62574-13-4 CAPLUS
 CN L-Cystine, 1,1'-bis(1,1-dimethylethyl) ester (CA INDEX NAME)

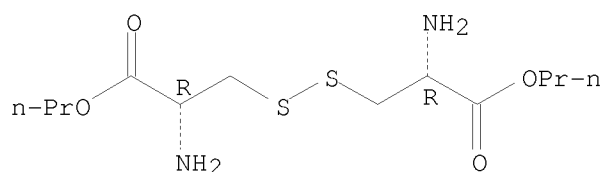
Absolute stereochemistry. Rotation (-).



RN 71861-65-9 CAPLUS

CN L-Cystine, dipropyl ester (9CI) (CA INDEX NAME)

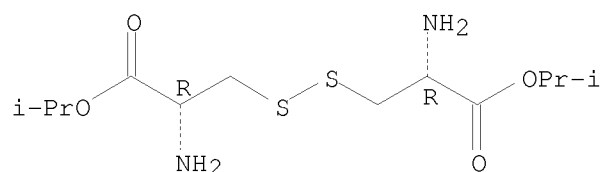
Absolute stereochemistry.



RN 71861-66-0 CAPLUS

CN L-Cystine, bis(1-methylethyl) ester (9CI) (CA INDEX NAME)

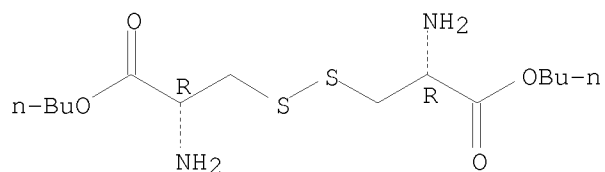
Absolute stereochemistry.



RN 71861-67-1 CAPLUS

CN L-Cystine, dibutyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 257 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1979:570996 CAPLUS

DOCUMENT NUMBER: 91:170996

ORIGINAL REFERENCE NO.: 91:27569a,27572a

TITLE: Chromatographic properties of peptides of cystine and glycine and some related derivatives

AUTHOR(S): Armstrong, Marvin D.

CORPORATE SOURCE: Sch. Med., Wright State Univ., Yellow Springs, OH, 45387, USA

SOURCE: Journal of Chromatography (1979), 175(1), 216-18

CODEN: JOCRAM; ISSN: 0021-9673

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Because the unsym. disulfide, cystinylglycine (Cys2Gly), is found in blood plasma, methods to characterize it and related compds. were studied. Although thin-layer chromatog. and high-voltage thin-layer electrophoresis were ineffective in separating several peptides of cystine and glycine or related derivs., ion-exchange chromatog. with an amino acid analyzer provided a successful separation method. Chromatog. was performed on a column of Aminex Q 150S with Li citrate buffer at pH 3.15 and 4.15 and with temperature change from 30 to 60°. Elution vols., color yields, and absorbance ratio values (570/440 nm) are tabulated for Cys2Gly and 8 related compds.

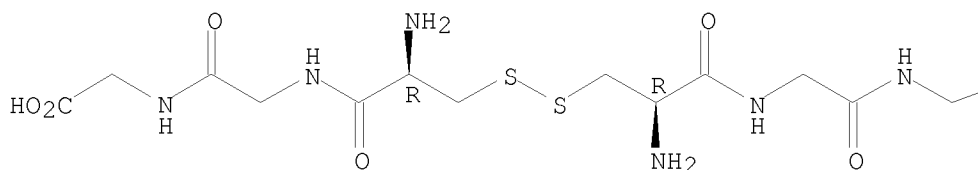
IT 71603-10-6
RL: ANT (Analyte); ANST (Analytical study)
(chromatog. of)

RN 71603-10-6 CAPLUS

CN Glycine, L-cysteinylglycyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

—CO2H

L5 ANSWER 258 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1979:523991 CAPLUS

DOCUMENT NUMBER: 91:123991

ORIGINAL REFERENCE NO.: 91:20019a,20022a

TITLE: Total synthesis of
δ(L-α-amino adipyl)-L-cysteinyl-D-valine
(ACV), a biosynthetic precursor of penicillins and
cephalosporins

AUTHOR(S): Wolfe, Saul; Jokinen, Mark Gordon

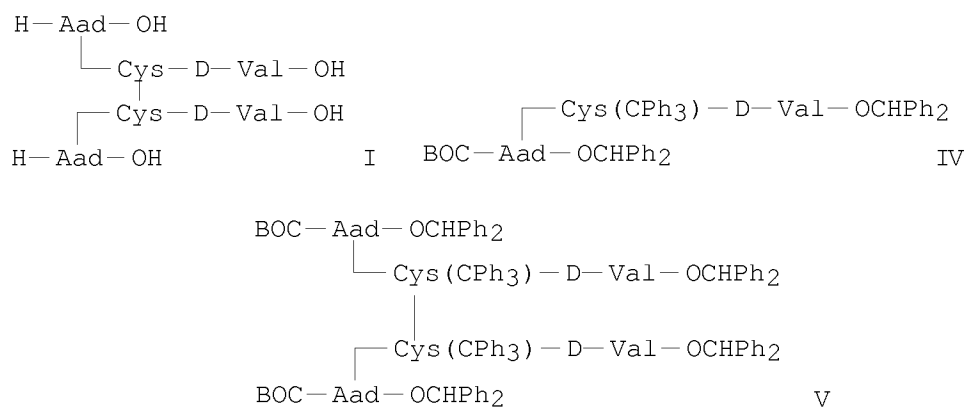
CORPORATE SOURCE: Dep. Chem., Queen's Univ., Kingston, ON, K7L 3N6, Can.

SOURCE: Canadian Journal of Chemistry (1979), 57(11), 1388-96
CODEN: CJCHAG; ISSN: 0008-4042

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



AB ACV disulfide (I, Aad = L- α -amino-adipic acid residue) was prepared by coupling BOC-Aad-OCHPh₂ (II, BOC = Me₃CO₂C) to H-Cys(CPh₃)-D-Val-OCHPh₂.HCl (III), oxidizing the tripeptide IV with iodine in MeOH, and deblocking the disulfide V. Cl(CH₂)₃CN was treated with NaI to give I(CH₂)₃CN, which was alkylated with AcNHCH(CO₂Et)₂ in EtOH-NaOMe to give the alkylated product, which was hydrolyzed by refluxing 8N HCl for 10 h to give DL- α -aminoadipic acid. The latter was converted to ClCH₂CO-DL-Aad-OH, which was hydrolyzed by catalysis with hog kidney acylase I to give L- α -aminoadipic acid, which was converted to II. Ph₃C-Cys(CPh₃)-OSu (Su = succinimido) was coupled to H-D-Val-OCHPh₂ tosylate in EtOAc containing Et₃N and 1,2,4-triazole to give Ph₃C-Cys(CPh₃)-D-Val-OCHPh₂, which was N-detritylated with HOAc and treated with HCl-EtOH to give III.

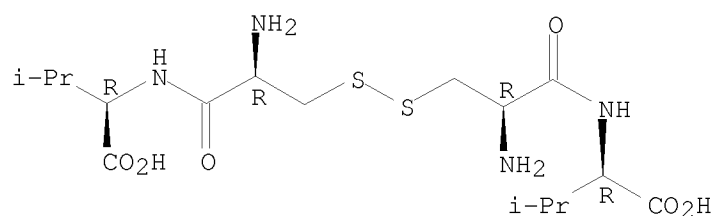
IT 71301-35-4P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 71301-35-4 CAPLUS

CN D-Valine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 259 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1979:519398 CAPLUS

DOCUMENT NUMBER: 91:119398

ORIGINAL REFERENCE NO.: 91:19225a,19228a

TITLE: Comparison of the hydrolytic and transfer activities of rat renal γ -glutamyltranspeptidase

AUTHOR(S): McIntyre, Thomas M.; Curthoys, Norman P.

CORPORATE SOURCE: Sch. Med., Univ. Pittsburgh, Pittsburgh, PA, 15261, USA

SOURCE: Journal of Biological Chemistry (1979), 254(14), 6499-504

CODEN: JBCHA3; ISSN: 0021-9258

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The γ -glutamyltranspeptidase (I) present in rat kidney has been localized on the luminal surface of the brush border membrane of the proximal tubule, implying that its activity is limited to the metabolism of extracellular substrates. In order to determine if I could effectively metabolize plasma concns. of glutathione (1-5 μ M), hydrolysis was assayed by the fluorometric quantitation of glutamate. At pH 7.4, reduced and oxidized glutathiones were hydrolyzed with K_m values of 5.7 and 8.1 μ M, resp. S-Substituted glutathiones (mercapturic acid precursors) and γ -glutamyl amino acids were also excellent substrates. Low concns. of L-amino acids and D-alanine, which is not a substrate for transpeptidation, competitively inhibited glutathione hydrolysis. This suggests that inhibition was not due to a competing transpeptidation reaction so that under these conditions transpeptidation would also be inhibited by amino acids. At pH 8.5, where the rate of transpeptidation is maximum, the rate of transpeptidation with the plasma concentration of alanine (0.5 mM) was half the rate of glutathione hydrolysis. The rate of hydrolysis remained constant between pH 8.5 and 6.0, whereas the rate of transpeptidation decreased 29-fold. The decreased rate of transpeptidation was due to an increased apparent K_m and a decreased V_{max} . Transpeptidation with methionine was also sensitive to pH. At pH 7.4, the combined rate of transpeptidation with plasma concns. of alanine and methionine was only 1/6 the rate of hydrolysis. The high rates of transpeptidation observed in vitro result from the use of alkaline pH and high, nonphysiol. concns. of amino acids. Glutathione hydrolysis, not transpeptidation, appears to be the major reaction catalyzed by I in vivo.

IT 7729-20-6

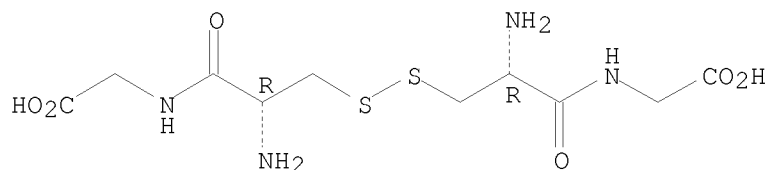
RL: BIOL (Biological study)

(γ -glutamyltranspeptidase hydrolytic and transfer activities in presence of, kinetics of)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 260 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1979:417370 CAPLUS

DOCUMENT NUMBER: 91:17370

ORIGINAL REFERENCE NO.: 91:2889a,2892a

TITLE: Metabolism of glutathione and a glutathione conjugate by isolated kidney cells

AUTHOR(S): Jones, Dean P.; Moldeus, Peter; Stead, A. Howard; Ormstad, Kari; Joernvall, Hans; Orrenius, Sten

CORPORATE SOURCE: Dep. Forensic Med., Karolinska Inst., Stockholm, S-104 01, Swed.

SOURCE: Journal of Biological Chemistry (1979), 254(8), 2787-92

CODEN: JBCHA3; ISSN: 0021-9258

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The metabolism of exogenously added glutathione (GSH) and a GSH conjugate was studied in suspensions of isolated rat kidney epithelial cells. GSH was oxidized rapidly to glutathione disulfide (GSSG) by kidney cell

suspensions. The reaction was inhibited by KCN and was dependent upon both O and GSH concns. Addition of serine borate (I), a specific inhibitor of γ -glutamyltransferase, had no effect on the rate of GSH loss. Apparently, an initial step in the metabolism of exogenous GSH in kidney is an oxidation to GSSG. Intermediate peptides formed during GSH or GSSG metabolism were the same with either GSH or GSSG as the starting substrate. Anal. of the rates of accumulation of the intermediates suggested that the 1st reaction during metabolism of GSSG is removal of 1 γ -glutamyl residue. Hydrolysis of the glycyl residue from the same GSH moiety then occurred to form the mixed disulfide of GSH and cysteine, and this was followed by removal of the 2nd γ -glutamyl residue. Finally, the 2nd glycyl residue was removed. The molar recovery of cystine was equivalent to the initial GSSG added, and glutamate and glycine accumulation corresponded to the formation of intermediate peptides. Addition of I inhibited GSSG

metabolism,

indicating that at least the initial reaction is catalyzed by γ -glutamyltransferase. An analogous reaction pathway was also present in the kidney cell suspensions whereby the GSH conjugate of paracetamol is converted to the corresponding cysteine conjugate. An intermediate in the conversion of the GSH to the cysteine derivative, which had the same elution characteristics as the derivative of paracetamol formed upon incubation of microsomes with paracetamol and cysteinylglycine, was resolved by high-pressure liquid chromatog. Addition of GSSG or I completely inhibited the breakdown of the GSH conjugate.

IT 7729-20-6

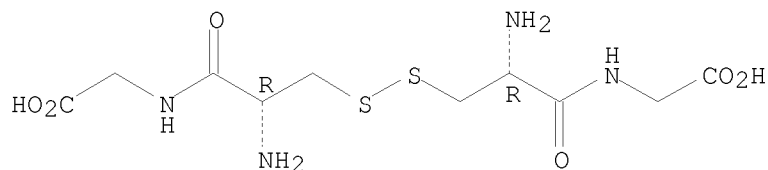
RL: FORM (Formation, nonpreparative)

(formation of, from glutathione by kidney epithelial cells)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 261 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1979:204508 CAPLUS

DOCUMENT NUMBER: 90:204508

ORIGINAL REFERENCE NO.: 90:32557a,32560a

TITLE: Psychopharmacologically-active peptides

INVENTOR(S): Greven, Hendrik Marie

PATENT ASSIGNEE(S): AKZO N. V., Neth.

SOURCE: Ger. Offen., 22 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2830489	A1	19790125	DE 1978-2830489	19780711
NL 7707781	A	19790116	NL 1977-7781	19770713
ZA 7803713	A	19790725	ZA 1978-3713	19780628
US 4203975	A	19800520	US 1978-921067	19780630
AU 7837780	A	19800110	AU 1978-37780	19780705
FI 7802195	A	19790114	FI 1978-2195	19780707

FI 67367	B	19841130		
FI 67367	C	19850311		
GB 2001076	A	19790124	GB 1978-29197	19780707
GB 2001076	B	19820127		
BE 868953	A1	19790112	BE 1978-189247	19780712
SE 7807759	A	19790114	SE 1978-7759	19780712
SE 443789	B	19860310		
SE 443789	C	19860619		
JP 54019934	A	19790215	JP 1978-85002	19780712
JP 62020200	B	19870506		
CA 1108123	A1	19810901	CA 1978-307217	19780712
DK 7803149	A	19790114	DK 1978-3149	19780713
DK 149454	B	19860616		
DK 149454	C	19861117		
FR 2397395	A1	19790209	FR 1978-21087	19780713
FR 2397395	B1	19810116		
PRIORITY APPLN. INFO.:			NL 1977-7781	A 19770713
GI				

$$\begin{array}{c} \text{H}-\text{Cys}-\text{Tyr}-\text{Phe}-\text{Gln}-\text{Asn}-\text{OH} \\ | \\ \text{H}-\text{Cys}-\text{Tyr}-\text{Phe}-\text{Gln}-\text{Asn}-\text{OH} \quad \text{II} \end{array}$$

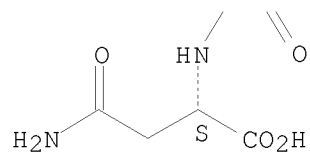
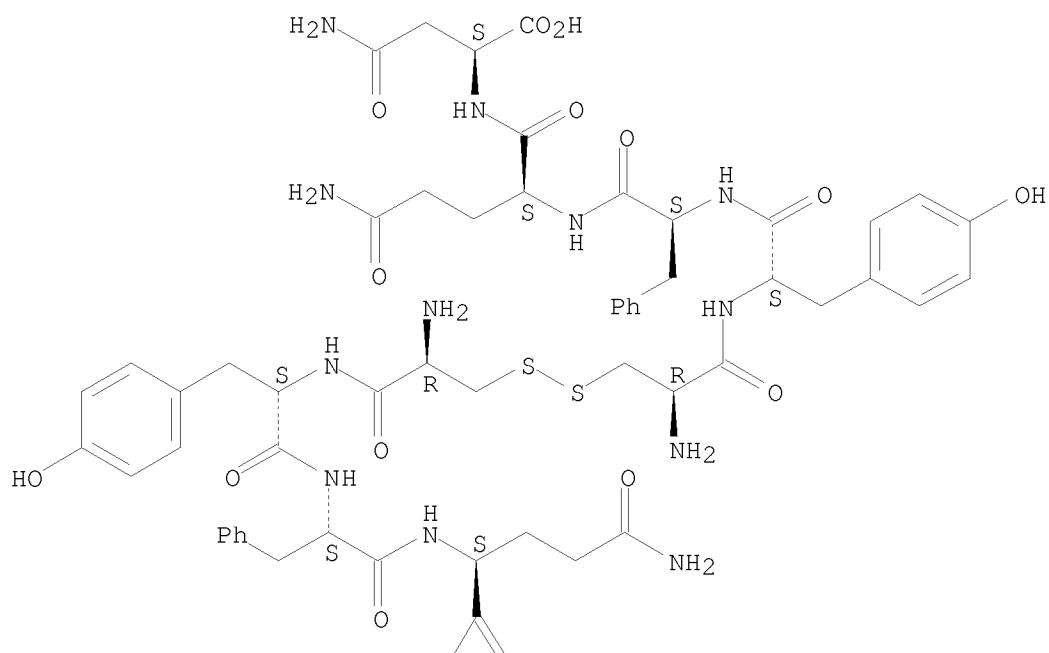
AB H-Cys(SO₃H)-Tyr-Phe-X-X₁-R [I; X = Glu, Gln; X₁ = Asp, Asn; R = OH, Asp-OH, Asn-OH, Glu-OH, Gln-OH, Ser-OH, NHX₂CO₂H (X₂ = C1-6-alkylene)] were prepared as stimulants of brain function for the treatment of senility and amnesia. Thus, Z-Cys(CH₂Ph)-Tyr-OH (Z = PhCH₂O₂C) was coupled to H-Phe-Gln-Asn-OH by the mixed anhydride method to give Z-Cys(CH₂Ph)-Tyr-Phe-Gln-Asn-OH, which was deblocked by Na/liquid NH₃ and oxidized to give disulfide dimer II. II was cleaved with Na₂SO₃-Na₂S₄O₆ to give H-Cys(SO₃H)-Tyr-Phe-Gln-Asn-OH. I are active at daily doses of 0.01-10 mg/kg.

IT 51776-42-2P 69876-19-3P 69876-20-6P
 69876-21-7P 69876-22-8P 70341-42-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and sulfite cleavage of)

RN 51776-42-2 CAPLUS

CN L-Asparagine, L-cysteinyl-L-tyrosyl-L-phenylalanyl-L-glutaminy-, bimol.
 (1→1')-disulfide (9CI) (CA INDEX NAME)

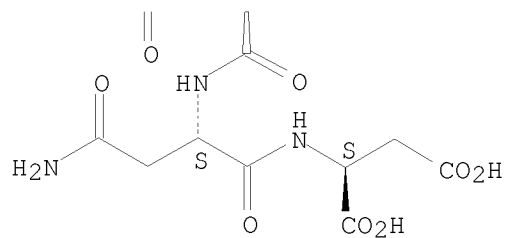
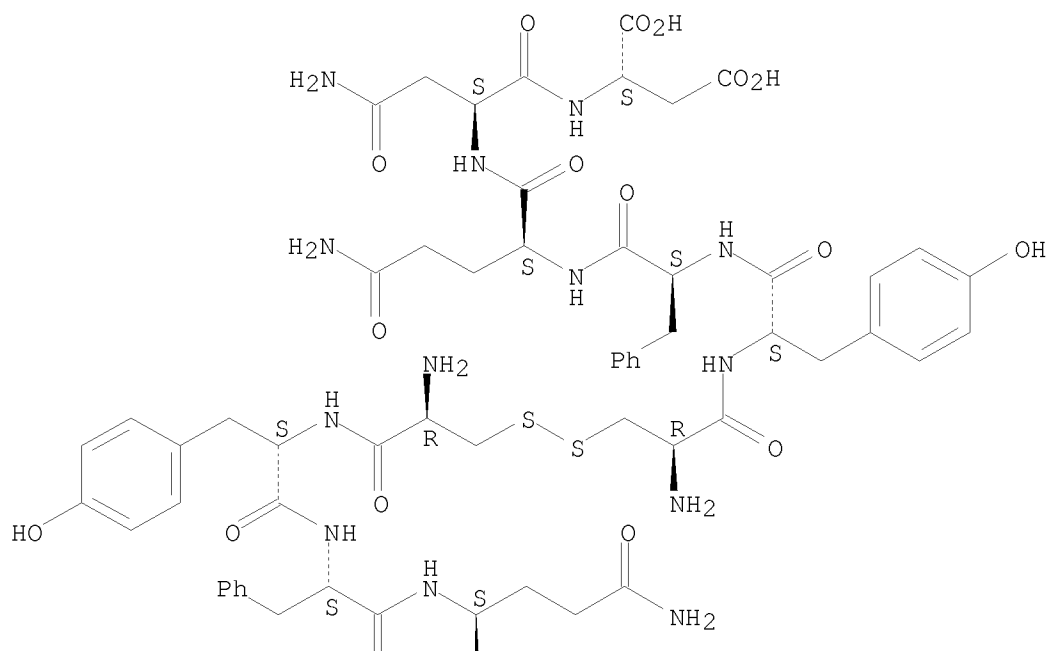
Absolute stereochemistry.



RN 69876-19-3 CAPLUS

CN L-Aspartic acid, L-cysteinyl-L-tyrosyl-L-phenylalanyl-L-glutaminyl-L-asparaginyl-, bimol. (1-1')-disulfide (9CI) (CA INDEX NAME)

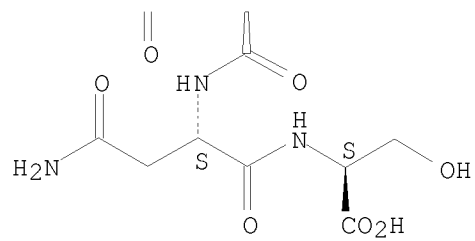
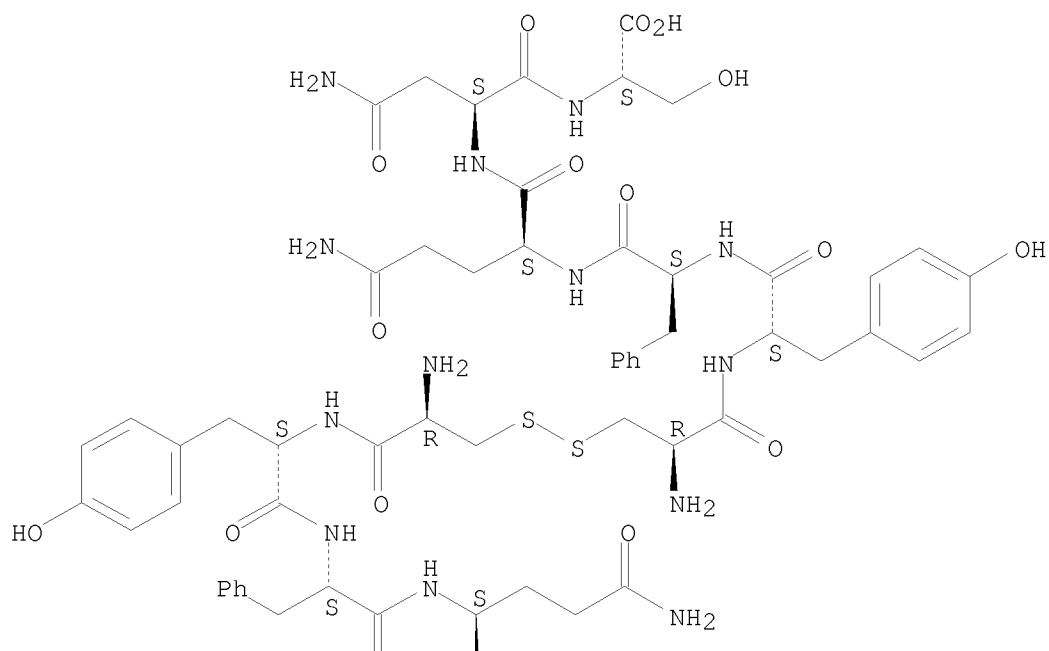
Absolute stereochemistry.



RN 69876-20-6 CAPLUS

CN L-Serine, L-cysteinyl-L-tyrosyl-L-phenylalanyl-L-glutaminyl-L-asparaginyl-, bimol. (1-1')-disulfide (9CI) (CA INDEX NAME)

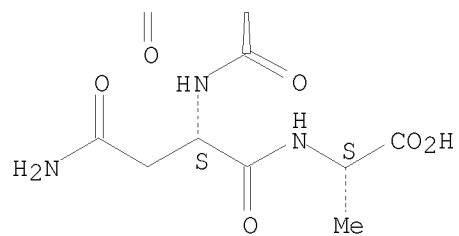
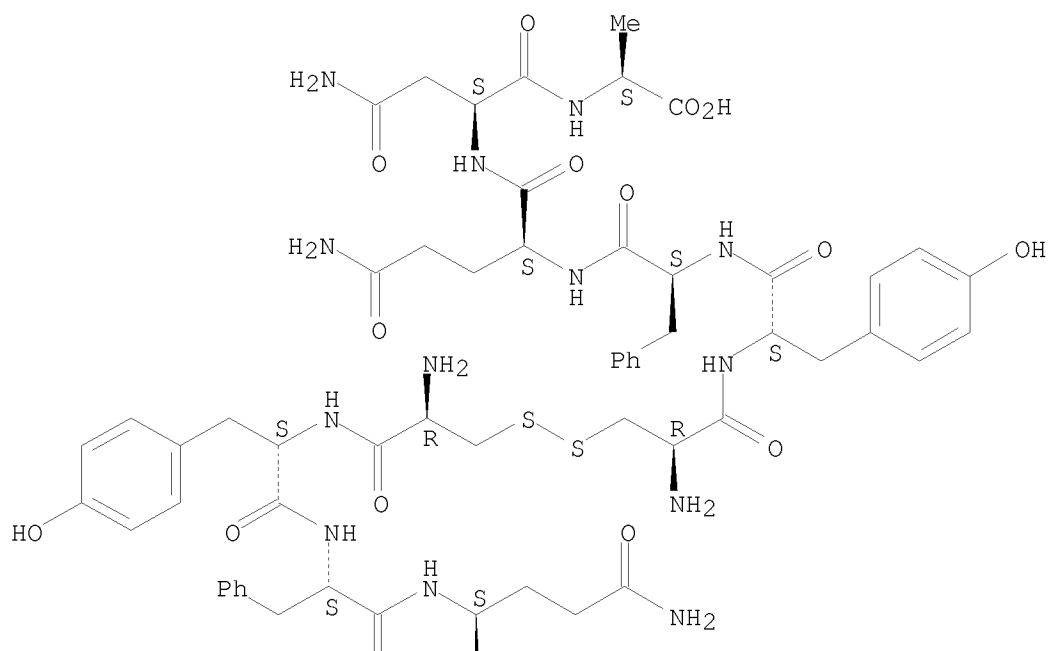
Absolute stereochemistry.



RN 69876-21-7 CAPLUS

CN L-Alanine, L-cysteinyl-L-tyrosyl-L-phenylalanyl-L-glutaminyl-L-asparaginyl-, bimol. (1-1')-disulfide (9CI) (CA INDEX NAME)

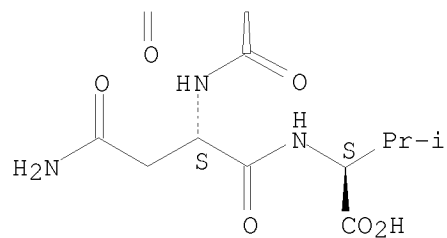
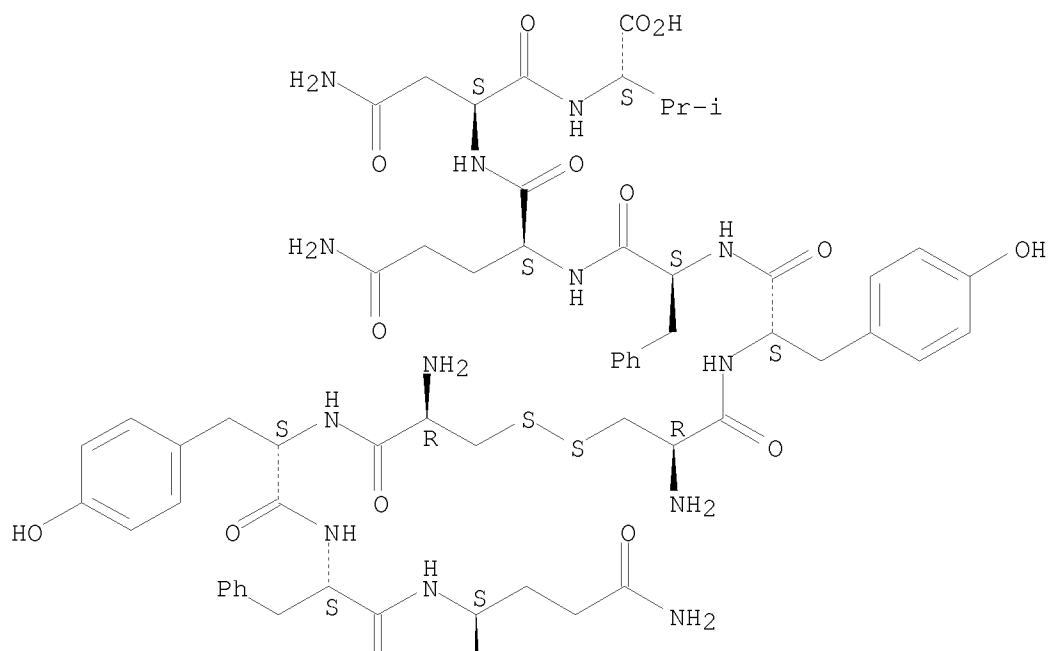
Absolute stereochemistry.



RN 69876-22-8 CAPLUS

CN L-Valine, L-cysteinyl-L-tyrosyl-L-phenylalanyl-L-glutaminyl-L-asparaginyl-, bimol. (1-1')-disulfide (9CI) (CA INDEX NAME)

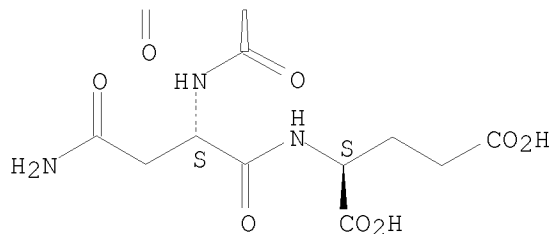
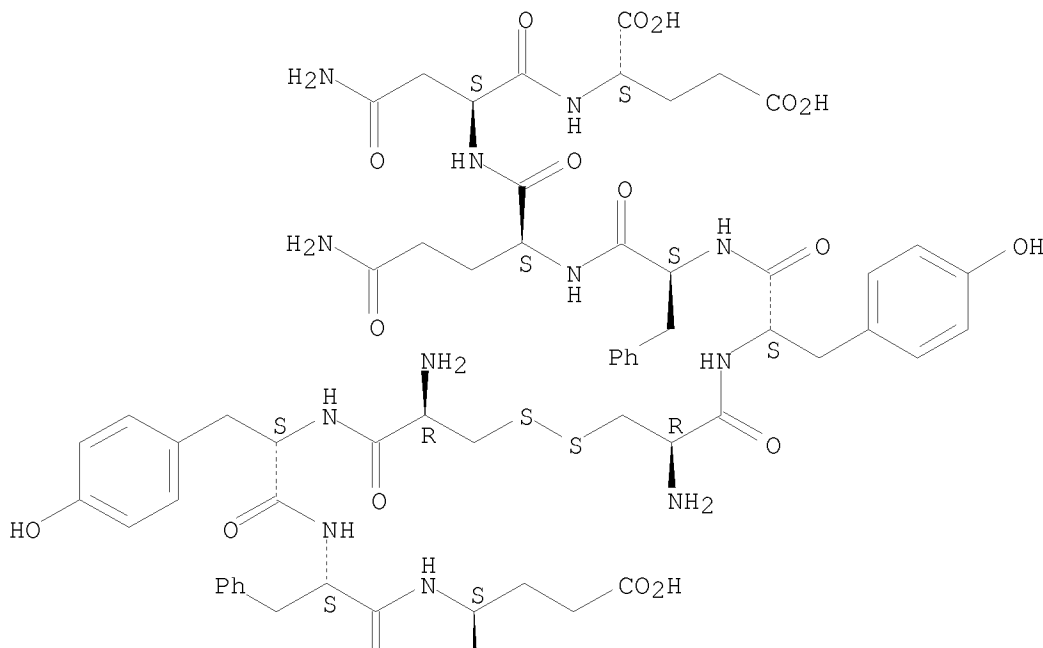
Absolute stereochemistry.



RN 70341-42-3 CAPLUS

CN L-Glutamic acid, L-cysteinyl-L-tyrosyl-L-phenylalanyl-L-glutaminyl-L-asparaginyl-, bimol. (1-1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

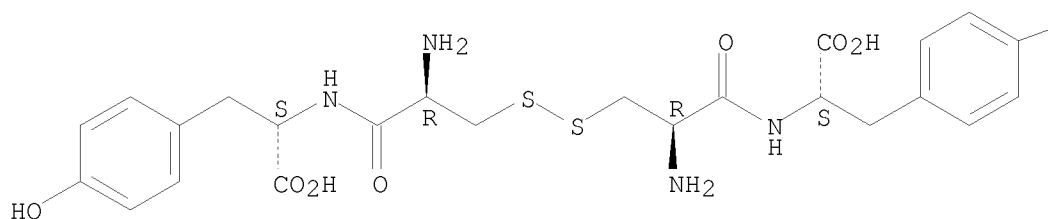


L5 ANSWER 262 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1979:187314 CAPLUS
 DOCUMENT NUMBER: 90:187314
 ORIGINAL REFERENCE NO.: 90:29781a,29784a
 TITLE: Photolysis mechanism of aqueous tyrosine and tyrosyl peptides
 AUTHOR(S): Baugher, J. F.; Grossweiner, L. I.
 CORPORATE SOURCE: Phys. Dep., Illinois Inst. Technol., Chicago, IL, USA
 SOURCE: Photochemistry and Photobiology (1978), 28(2), 175-84
 CODEN: PHCBAP; ISSN: 0031-8655
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The initial hydrated electron (e-aq) and p-alanylphenoxyl radical (Tyr•) were measured by laser flash photolysis at 265 nm in aqueous tyrosine, small tyrosine peptides, and RNase A. Monophotonic photolysis not involving fluorescent or triplet states was the main process, and equivalent yields of e-aq and Tyr• were found in all cases except tyrosine, where the Tyr• yield was 60% higher than that of e-aq due to cleavage of the phenolic bond. Computer anal. of e-aq and Tyr• decays for tyrosine indicated the importance of electron-radical recombinations in competition with electron scavenging and bimol. radical-radical reactions. Photoionization of cystinyl-bis-tyrosine gave a disulfide

electron adduct by intermol. reactions of e-aqueous
 IT 7369-94-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (photolysis of, mechanism of)
 RN 7369-94-0 CAPLUS
 CN L-Tyrosine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX
 NAME)

Absolute stereochemistry.

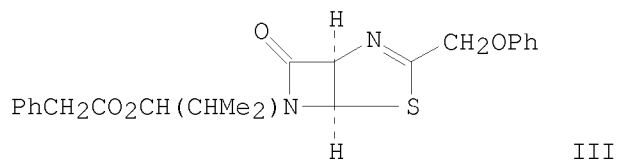
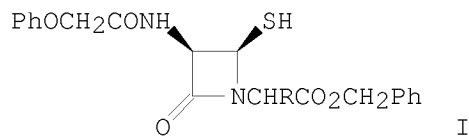
PAGE 1-A



PAGE 1-B

—OH

L5 ANSWER 263 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1979:152583 CAPLUS
 DOCUMENT NUMBER: 90:152583
 ORIGINAL REFERENCE NO.: 90:24281a,24284a
 TITLE: Conversion of penicillins into biosynthetically
 significant peptides
 AUTHOR(S): Baldwin, Jack E.; Jung, Mankil
 CORPORATE SOURCE: Chem. Dep., Massachusetts Inst. Technol., Cambridge,
 MA, USA
 SOURCE: Journal of the Chemical Society, Chemical
 Communications (1978), (14), 609-10
 CODEN: JCCCAT; ISSN: 0022-4936
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI



AB Azetidinone I (R = CH2:CMc) on treatment with MeOH/AcOH in the presence of
 NaBH3CN underwent stereoselective reduction to give peptide
 PhOCH2CONHCHRCNHCHR1CO2CH2Ph (II; R = HSCH2, R1 = CH2:CMc) by

interception of intermediate II (R = SCH, R1 = CH:CMc). Similar reduction of I (R = Me2CH), which was prepared from β -lactam III, to give II (R = HSCH2, R1 = Me2CH) represents a formal reversal of penicillin biosynthesis.

IT 62574-13-4

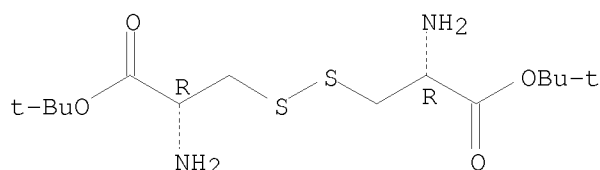
RL: PROC (Process)

(phenoxyacetylation and deprotection of)

RN 62574-13-4 CAPLUS

CN L-Cystine, 1,1'-bis(1,1-dimethylethyl) ester (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



L5 ANSWER 264 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1979:55273 CAPLUS

DOCUMENT NUMBER: 90:55273

ORIGINAL REFERENCE NO.: 90:8853a,8856a

TITLE: Des-N-tetramethyltriostin A and
bis-L-seryl-des-N-tetramethyltriostin A, synthetic
analogs of the quinoxaline antibiotics

AUTHOR(S): Ciardelli, Thomas L.; Chakravarty, Prasun K.; Olsen,
Richard K.

CORPORATE SOURCE: Dep. Chem. Biochem., Utah State Univ., Logan, UT, USA

SOURCE: Journal of the American Chemical Society (1978),
100(24), 7684-90

CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: English

GI For diagram(s), see printed CA Issue.

AB Des-N-tetramethyltriostin A (I, Qxc = 2-quinoxalinecarbonyl) was prepared by deblocking-oxidizing peptide dilactone II (Z = PhCH2O2C, Acn = CH2NHAc) with iodine in MeOH, Z-deblocking the resulting disulfide III (R = Z) with HBr/HOAc, and acylating the resulting III (R = H) with Qxc-Cl. Tetradepsipeptide IV [R1 = Me3CO2C (BOC), CH2CCl3 (Tce)] was prepared and then Tce-deblocked with Zn/HOAc and BOC-deblocked with CF3CO2H to give IV (R1 = BOC, R2 = H) (V) and IV (R1 = H, R2 = Tce) (VI), resp. V was coupled with VI to give octadepsipeptide VII (R3 = BOC, R4 = Tce), which was Tce- and BOC-deblocked to give VII (R3 = R4 = H), which was cyclized under high dilution to give II. The L-serine analog of I (VIII) was prepared similarly. I binds to DNA, but VIII does not.

IT 38261-78-8

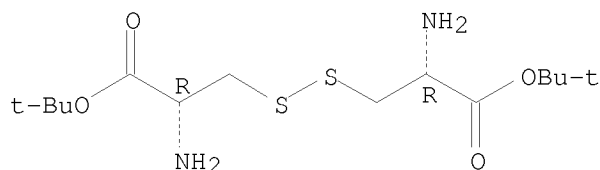
RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with tridepsipeptide)

RN 38261-78-8 CAPLUS

CN L-Cystine, 1,1'-bis(1,1-dimethylethyl) ester, hydrochloride (1:2) (CA
INDEX NAME)

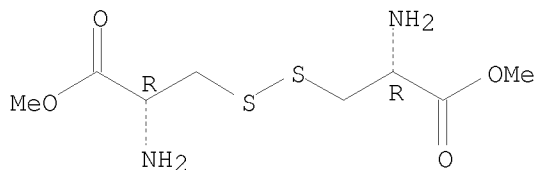
Absolute stereochemistry. Rotation (-).



● 2 HCl

L5 ANSWER 265 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1978:575580 CAPLUS
 DOCUMENT NUMBER: 89:175580
 ORIGINAL REFERENCE NO.: 89:27215a,27218a
 TITLE: Glutathione transferases. Catalysis of nucleophilic reactions of glutathione
 AUTHOR(S): Keen, James H.; Jakoby, William B.
 CORPORATE SOURCE: Natl. Inst. Arthritis, Metab., Dig. Dis., NIH, Bethesda, MD, USA
 SOURCE: Journal of Biological Chemistry (1978), 253(16), 5654-7
 CODEN: JBCHA3; ISSN: 0021-9258
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Homogeneous prepsns. of glutathione transferases from rat liver were tested for their ability to catalyze a number of diverse nucleophilic reactions of glutathione. Although disulfide interchange with oxidized glutathione or L-cystine, and cis-trans isomerization of maleic acid, were clearly promoted by thiols in solution, the reactions were not catalyzed by glutathione transferases. In contrast, certain more hydrophobic analogs of these compds. served as substrates. The transferases also catalyzed the glutathione-dependent release of p-nitrophenol from p-nitrophenyl acetate and p-nitrophenyl trimethylacetate. These observations are consistent with the formulation that catalysis may result from close juxtaposition of sufficiently electrophilic, nonpolar compds. with glutathione on the enzyme surface.
 IT 1069-29-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with glutathione transferases)
 RN 1069-29-0 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 266 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1978:559890 CAPLUS
 DOCUMENT NUMBER: 89:159890
 ORIGINAL REFERENCE NO.: 89:24751a,24754a
 TITLE: Use of L-cystinyl-bis-L-valine for the biosynthesis of penicillin by Penicillium chrysogenum
 AUTHOR(S): Adriaens, P.; Meesschaert, B.; Eyssen, H.;

Vanderhaeghe, H.

CORPORATE SOURCE: Rega Inst., Kathol. Univ. Leuven, Louvain, Belg.
SOURCE: FEMS Microbiology Letters (1978), 4(1), 15-18
CODEN: FMLED7; ISSN: 0378-1097
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The incorporation of L-cystinyl-bis-L-valine-14C, L-cystinyl-3,3'-3H-bis-L-valine, and L-cystinyl-3,3'-3H-bis-L-valine-U-14C into penicillin by 2 *P. chrysogenum* strains was compared with the incorporation of the constituent amino acids, and the relative efficiencies of L-valine-1-14C and -U-14C as penicillin precursors were compared. The 14C from the double-labeled peptide was taken up more rapidly than the 3H, indicating that the peptide was not taken up intact. Likewise, 3H from the peptide was less efficiently incorporated than was 3H from free cystine. Thus, the disulfide-linked peptide is probably not used for penicillin biosynthesis.

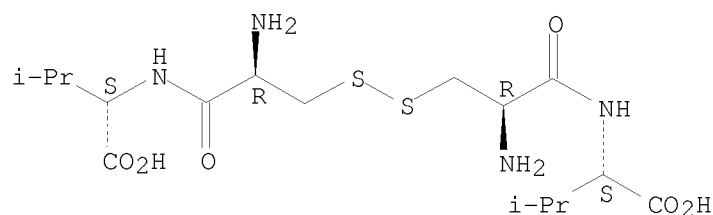
IT 21141-84-4

RL: BIOL (Biological study)
(penicillin formation by *Penicillium chrysogenum* in relation to)

RN 21141-84-4 CAPLUS

CN L-Valine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 267 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1978:185305 CAPLUS

DOCUMENT NUMBER: 88:185305

ORIGINAL REFERENCE NO.: 88:29095a,29098a

TITLE: Reversible inactivation of tyrosine aminotransferase from guinea pig liver by thiol and disulfide compounds
AUTHOR(S): Federici, G.; Di Cola, D.; Sacchetta, P.; Di Ilio, C.; Del Boccio, G.; Polidoro, G.

CORPORATE SOURCE: Fac. Med., Univ. "G. D'Annunzio", Chieti, Italy

SOURCE: Biochemical and Biophysical Research Communications (1978), 81(2), 650-5
CODEN: BBRCA9; ISSN: 0006-291X

DOCUMENT TYPE: Journal

LANGUAGE: English

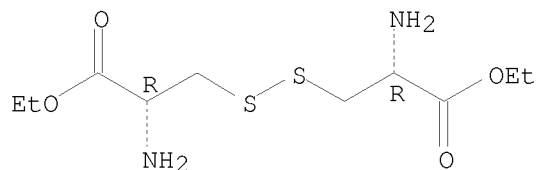
AB Tyrosine aminotransferase from guinea pig liver is strongly inactivated by a variety of natural thiols and disulfides. L-Cysteine was used as a model compound in the study of inactivation. Inactivation is due to the disulfide produced by spontaneous oxidation of thiol during incubation. Binding studies with cysteine-35S revealed simultaneous incorporation of 35S into tyrosine aminotransferase and loss of enzyme activity. The reversibility demonstrates that the inactivation is the result of the formation of mixed disulfide between the SS and the SH group of tyrosine aminotransferase. Some features of the enzyme active site are showed by the inactivation reaction.

IT 583-89-1

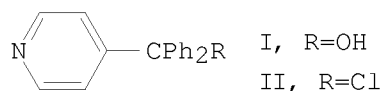
RL: BIOL (Biological study)
(tyrosine aminotransferase inactivation by, active site in relation to)

RN 583-89-1 CAPLUS
CN L-Cystine, 1,1'-diethyl ester (CA INDEX NAME)

Absolute stereochemistry.

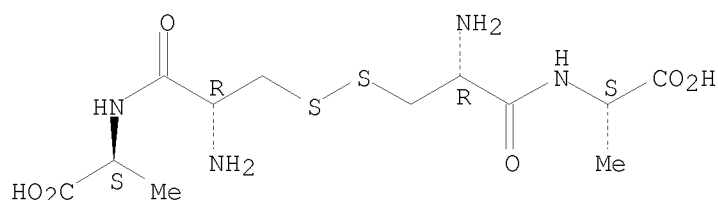


L5 ANSWER 268 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1978:23376 CAPLUS
DOCUMENT NUMBER: 88:23376
ORIGINAL REFERENCE NO.: 88:3777a,3780a
TITLE: A new protecting group for cysteine and histidine
AUTHOR(S): Coyle, Susan; Young, Geoffrey T.
CORPORATE SOURCE: Dyson Perrins Lab., Oxford Univ., Oxford, UK
SOURCE: Pept., Proc. Eur. Pept. Symp., 14th (1976), 205-8.
Editor(s): Loffet, Albert. Editions Univ. Bruxelles:
Brussels, Belg.
CODEN: 36PZAV
DOCUMENT TYPE: Conference
LANGUAGE: English
GI



AB Cysteine was treated with the 4-pyridylmethanol I to give H-Cys(CPh2Py)-OH (CPh2Py = diphenyl(4-pyridyl)methyl]; BOC-His-OMe (BOC = Me3CO2C) was treated with II to give BOC-His(CPh2Py)-OMe. The CPh2Py group was stable to CF3CO2H and HBr-HOAc, whereas it was cleaved from cysteine by iodine in 80% HOAc, Hg(OAc)2-HOAc, Zn-HOAc, and electrolytic reduction and it was cleaved from histidine by hydrogenolysis over Pd/C in 60% HOAc. BOC-Ile-Ala-Cys(CPh2Py)-X-Cys(CPh2Py)-Ala-OPic (X = Ala, Asn; Pic = 4-picolyl) and BOC-Gly-His(CPh2Py)-OH were prepared
IT 20898-21-9P
RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)
RN 20898-21-9 CAPLUS
CN L-Alanine, L-cysteinyl-, bimol. (1-1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

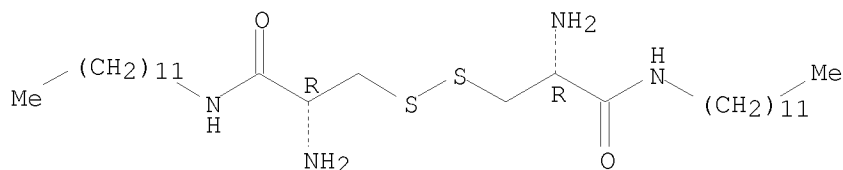


L5 ANSWER 269 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1977:579019 CAPLUS
DOCUMENT NUMBER: 87:179019
ORIGINAL REFERENCE NO.: 87:28255a,28258a
TITLE: Amino acid alkyl amides as bactericides and fungicides
INVENTOR(S): Misato, Tomomasa; Ko, Keido; Honma, Yasuo; Kida, Takao; Mizuno, Hiroshi; Inazuka, Shinichi
PATENT ASSIGNEE(S): Ajinomoto Co., Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	JP 52021322	A	19770217	JP 1975-95430	19750807
PRIORITY APPLN. INFO.:				JP 1975-95430	A 19750807
AB	Neutral amino acid higher alkylamides or basic amino acid higher alkylamides are used as bactericides and fungicides. For example, glycinebetainelaurylamide [62572-89-8] sprayed on cucumbers at 500 ppm decreased Botritis cinerea infection by 45%. Microbicidal activity of 10 other amino acid alkylamides was also demonstrated.				
IT	64013-93-0				
	RL: BIOL (Biological study) (bactericide and fungicide)				
RN	64013-93-0 CAPLUS				
CN	Propanamide, 3,3'-dithiobis[2-amino-N-dodecyl-, (2R,2'R)- (9CI) (CA INDEX NAME)				

Absolute stereochemistry.



L5 ANSWER 270 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1977:536360 CAPLUS
DOCUMENT NUMBER: 87:136360
ORIGINAL REFERENCE NO.: 87:21620h,21621a
TITLE: Luminescence of model indole-disulfide compounds
AUTHOR(S): Longworth, J. W.; Helene, Claude
CORPORATE SOURCE: Biol. Div., Oak Ridge Natl. Lab., Oak Ridge, TN, USA
SOURCE: Excited States Biol. Mol., Proc. Int. Conf. (1976), Meeting Date 1974, 468-76. Editor(s): Birks, John B. Wiley: Chichester, Engl.
CODEN: 35CQAY
DOCUMENT TYPE: Conference
LANGUAGE: English
GI For diagram(s), see printed CA Issue.
AB The fluorescent and phosphorescent behavior of [p-(MeO)C₆H₄CH₂S]₂, cystylbistyrosine I, indole-disulfide II, and cystyltryptophan III at 77 K are given and related to the behavior of the tyrosine-disulfide interaction in RNase and the tryptophan-disulfide interactions in Bence-Jones proteins and lysozyme.
IT 7369-94-0

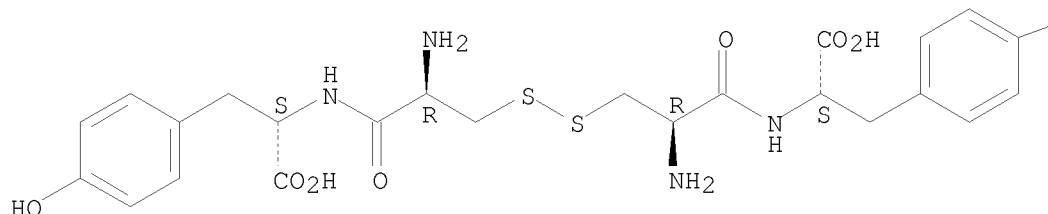
RL: PRP (Properties)
(phosphorescence spectrum of)

RN 7369-94-0 CAPLUS

CN L-Tyrosine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

—OH

L5 ANSWER 271 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1977:171843 CAPLUS

DOCUMENT NUMBER: 86:171843

ORIGINAL REFERENCE NO.: 86:27013a,27016a

TITLE: Cystine dialkyl ester N,N'-disuccinates

INVENTOR(S): Suzuki, Kiyoshi; Adachi, Kikuo

PATENT ASSIGNEE(S): Katsura Chemicals Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 2 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 51131825	A	19761116	JP 1975-55032	19750508
JP 58005193	B	19830129		

PRIORITY APPLN. INFO.: JP 1975-55032 A 19750508

AB The title compds. I [SCH₂CH(CO₂R)NHCOCH₂CH₂CO₂H]₂ (R = alkyl) were prepared by treating cystine dialkyl esters with succinic anhydride (II). Thus, 182 g Et₃N was added to 307 g cystine di-Me ester HCl in CHCl₃ and 180 g II to precipitate 300 g I (R = Me).

IT 32854-09-4

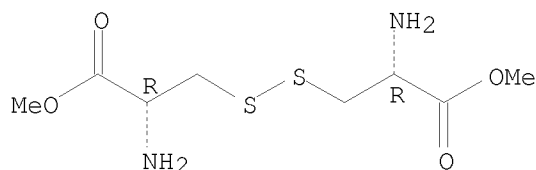
RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with succinic anhydride, cystine dimethyl disuccinate by)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 272 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1977:155974 CAPLUS
 DOCUMENT NUMBER: 86:155974
 ORIGINAL REFERENCE NO.: 86:24511a,24514a
 TITLE: Cystine-containing solutions
 INVENTOR(S): Suzuki, Kiyoshi; Adachi, Kikuo
 PATENT ASSIGNEE(S): Katsura Chemicals Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 51131826	A	19761116	JP 1975-55033	19750508
JP 58021912	B	19830504		

PRIORITY APPLN. INFO.: JP 1975-55033 A 19750508

AB Cystine-containing solns. were prepared by conversion of cystine dialkyl esters into their N,N'-disuccinates followed by dissolving the disuccinates in H2O or alcs. in the presence of trialkanolamines. Thus, 18 g Et3N was treated with 30 g cystine di-Me ester-HCl in CHCl3, and then 17.5 g succinic anhydride added to precipitate 23.4 g cystine di-Me ester N,N'-disuccinate, which was added to a mixture of 14.9 g Et3N and 38.3 g 95% EtOH to form a concentrated cystine-containing solution

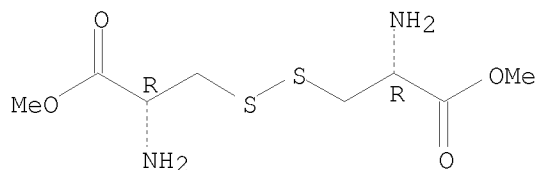
IT 32854-09-4

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with succinic anhydride)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.

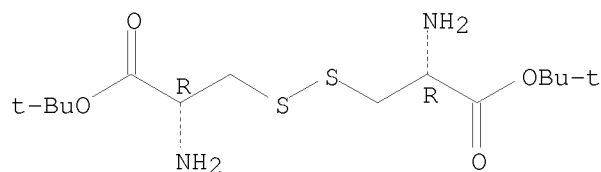


● 2 HCl

L5 ANSWER 273 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1977:155957 CAPLUS
 DOCUMENT NUMBER: 86:155957

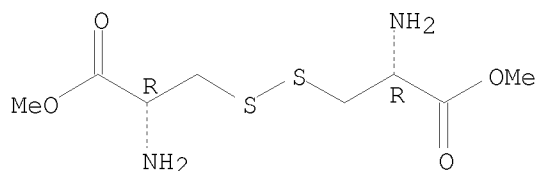
ORIGINAL REFERENCE NO.: 86:24507a,24510a
 TITLE: Synthesis of L-cystine bis-tert-butyl ester and its application to peptide synthesis
 AUTHOR(S): Amaral, M. Joaquina S. A.; Macedo, M. Adelina; Oliveira, M. Isabel A.
 CORPORATE SOURCE: Cent. Invest. Quim., Univ. Porto, Porto, Port.
 SOURCE: Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1977), (2), 205-6
 CODEN: JCPRB4; ISSN: 0300-922X
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB L-cystine bis-tert-Bu ester, prepared from L-cystine and AcOCMe₃ in aqueous HClO₄, was coupled with N-tritylglycine and N-tritylglycylglycine by the dicyclohexylcarbodiimide procedure to give 79% N,N'-bis(tritylglycyl)-L-cystine bis-tert-Bu ester and 43% N,N'-bis(tritylglycylglycyl)-L-cystine bis-tert-Bu ester, resp.
 IT 62574-13-4P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and coupling reaction of)
 RN 62574-13-4 CAPLUS
 CN L-Cystine, 1,1'-bis(1,1-dimethylethyl) ester (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



L5 ANSWER 274 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1977:137085 CAPLUS
 DOCUMENT NUMBER: 86:137085
 ORIGINAL REFERENCE NO.: 86:21529a,21532a
 TITLE: Chemical modifications of sulfhydryl groups of A intraerythrocytic hemoglobin
 AUTHOR(S): Antonini, E.; Ioppolo, C.; Giardina, B.; Brunori, W.
 CORPORATE SOURCE: Cent. Mol. Biol., CNR, Rome, Italy
 SOURCE: Biochemical and Biophysical Research Communications (1977), 74(4), 1647-55
 CODEN: BBRCA9; ISSN: 0006-291X
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Chemical modifications of intraerythrocytic Hb were obtained by reaction of β -chain 93-SH groups with disulfides, i.e., cystamine and cystine dimethyl ester. The respiratory properties of the modified erythrocytes were similar to those of the Hb reacted with the same reagents. The changes observed were the same for both compds. Although other properties of the erythrocytes were modified, the resistance to hemolysis was not vastly impaired.
 IT 1069-29-0
 RL: BIOL (Biological study)
 (Hb mercapto group modification by, erythrocyte respiration response to)
 RN 1069-29-0 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 275 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1977:107036 CAPLUS
 DOCUMENT NUMBER: 86:107036
 ORIGINAL REFERENCE NO.: 86:16901a,16904a
 TITLE: Amino-acids and peptides. Part XL. Protection removable by electrolytic reduction: the use of S-4-picolyl-L-cysteine and O-4-picolyl-L-tyrosine in synthesis

AUTHOR(S): Gosden, Anthony; Macrae, Robert; Young, Geoffrey T.
 CORPORATE SOURCE: Dyson Perrins Lab., Oxford Univ., Oxford, UK
 SOURCE: Journal of Chemical Research, Synopses (1977), (1), 22-3

CODEN: JRPSDC; ISSN: 0308-2342

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Addition of Na to L-cystine in liquid NH₃ followed by addition of 4-picolyl chloride gave 60% S-4-picolyl-L-cysteine [Cys(Pic)]. Electroreduction of Cys(Pic) in 0.25M H₂SO₄ at a Hg cathode gave 88% L-cysteine. Boc-Cys(Pic)-Gly, Boc-Gly-Cys(Pic), and Boc-Tyr(Pic)-Gly (Boc = Me₃CO₂C), prepared by standard procedures, on sequential treatment with CF₃CO₂H, electrochem. reduction, and aeration at pH 8.5 gave 74% L-cystinyldiglycine, 65% diglycyl-L-cystine, and 63% Tyr-Gly, resp.

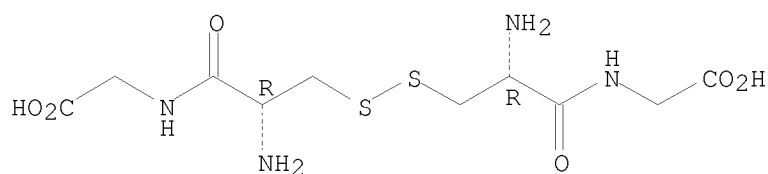
IT 7729-20-6P 62130-80-7P

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

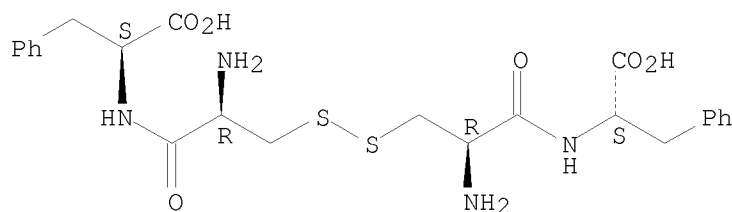
Absolute stereochemistry.



RN 62130-80-7 CAPLUS

CN L-Phenylalanine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 276 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1977:90226 CAPLUS

DOCUMENT NUMBER: 86:90226

ORIGINAL REFERENCE NO.: 86:14269a,14272a

TITLE: Synthesis of labeled L-cystinyl-bis-L-valine and bis-6-(L-2-aminoadipyl)-L-cystinyl-bis-L-valine

AUTHOR(S): Vanderhaeghe, H.; Adriaens, P.

CORPORATE SOURCE: Rega Inst., Univ. Leuven, Leuven, Belg.

SOURCE: Journal of Labelled Compounds and Radiopharmaceuticals (1976), 12(3), 381-7

CODEN: JLCRD4; ISSN: 0362-4803

DOCUMENT TYPE: Journal

LANGUAGE: English

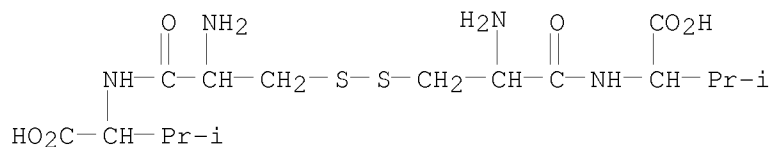
AB Cystinylbis(valine)-U-14C (I) was obtained radiochem. pure by dicyclohexylcarbodiimide coupling of valine-U-14C tert-Bu ester with di-N-(benzyloxycarbonyl)cystine followed by deprotection with HBr-AcOH. Bis-6-(2-aminoadipyl)cystinylbis(valine)-U-14C (II) was obtained radiochem. pure by condensing I with a mixed anhydride of 1-benzyl-2-(benzyloxycarbonylamino)adipic acid followed by hydrolysis and deprotection. The radiochem. yield of II, based on valine-U-14C, was 24%. Cystinyl-3,3'-t2-bis(valine), bis-6-(aminoadipyl)cystinyl-3,3'-t2-bis(valine), and bis-6-(aminoadipyl)cystinylbis(D-valine) were prepared by the same methods.

IT 61949-19-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and condensation with benzyl(benzyloxycarbonylamino) adipic acid)

RN 61949-19-7 CAPLUS

CN D-Valine, L-cysteinyl-, bimol. (1→1')-disulfide, labeled with carbon-14 (9CI) (CA INDEX NAME)



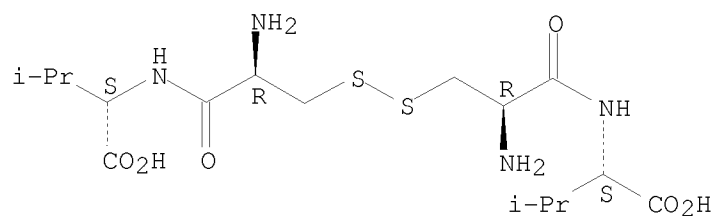
IT 61886-81-5P 61886-82-6P 61927-13-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 61886-81-5 CAPLUS

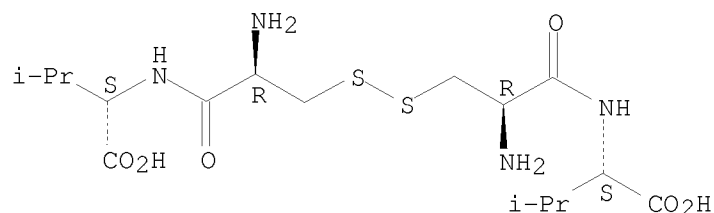
CN L-Valine, L-cysteinyl-, bimol. (1→1')-disulfide, labeled with carbon-14, dihydrobromide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



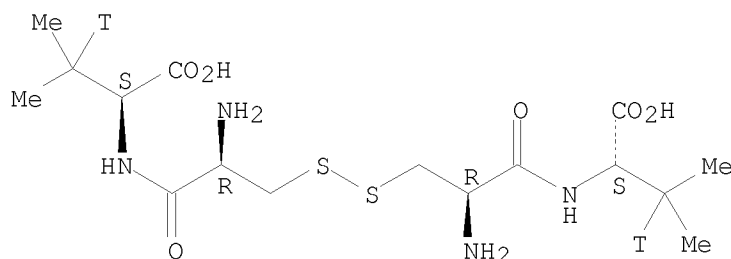
RN 61886-82-6 CAPLUS
CN L-Valine, L-cysteiny-, bimol. (1→1')-disulfide, labeled with
carbon-14 (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 61927-13-7 CAPLUS
CN L-Valine-3-t, L-cysteiny-, bimol. (1→1')-disulfide (9CI) (CA
INDEX NAME)

Absolute stereochemistry.



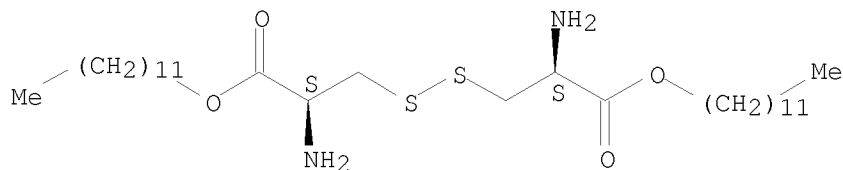
L5 ANSWER 277 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1976:554983 CAPLUS
DOCUMENT NUMBER: 85:154983
ORIGINAL REFERENCE NO.: 85:24791a,24794a
TITLE: Plant growth-regulating activity of amino acid related
compounds. Part I. Relation between chemical
structure and plant growth-regulating activity of
amino acid related compounds
AUTHOR(S): Kida, Takao; Mizuno, Hiroshi; Takinami, Koichi;
Matsunaka, Shooichi
CORPORATE SOURCE: Cent. Res. Lab., Ajinomoto Co., Inc., Kawasaki, Japan
SOURCE: Agricultural and Biological Chemistry (1976), 40(8),
1551-7
CODEN: ABCHA6; ISSN: 0002-1369
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Four types of amino acid related compds. were examined on their plant
growth-regulating activity. These compds. were N-acylamino acids
(N-acyl), N-alkylamino acids (N-alkyl), amino acid higher alkyl esters
(ester) and amino acid higher alkyl amides (amide). Every compound, when
the number of carbon atoms of the acyl or alkyl radical was 10 to 12, was
most effective in inhibiting the root and shoot elongation of rice plant
(Oryza sativa) in Petri dish. Ester and amide were much more effective
than N-acyl and N-alkyl. Ester and amide also showed herbicidal activity
against barnyardgrass (Echinochloa crusgalli) grown in pot filled with
paddy soil and irrigated, especially, lauryl DL-valinate·HCl [41489-04-7]
being most effective.
IT 60654-04-8
RL: AGR (Agricultural use); BAC (Biological activity or effector, except

adverse); BSU (Biological study, unclassified); BIOL (Biological study);
USES (Uses)
(plant growth-regulating activity of)

RN 60654-04-8 CAPLUS

CN Cystine, didodecyl ester, hydrochloride (9CI) (CA INDEX NAME)

Relative stereochemistry.



●x HCl

L5 ANSWER 278 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1976:554229 CAPLUS

DOCUMENT NUMBER: 85:154229

ORIGINAL REFERENCE NO.: 85:24655a,24658a

TITLE: Release of melanocyte-stimulating hormone by neurohypophyseal hormone fragments

AUTHOR(S): Celis, M. E.; Nakagawa, S. H.; Walter, Roderich

CORPORATE SOURCE: Inst. Invest. Med. Mercedes y Martin Ferreyra, Cordoba, Argent.

SOURCE: Pept.: Chem., Struct. Biol., Proc. Am. Pept. Symp., 4th (1975), 771-6. Editor(s): Walter, Roderich; Meienhofer, Johannes. Ann Arbor Sci.: Ann Arbor, Mich.

CODEN: 33UYAW

DOCUMENT TYPE: Conference

LANGUAGE: English

AB Cys-Tyr-Ile-Gln-Asn [33887-12-6], Cys-Tyr-Phe-Gln-Asn [60551-01-1], N-tosyl-Cys(S-benzyl)-Tyr-Ile-Gln-Asn [5503-95-7], Ile-Gln-Asn [3561-31-7], and Tyr-Ile-Gln-Asn [60555-00-2] at ng concentration decreased the pituitary MSH [9002-79-3] content of intact male rats to about 50% and increased serum MSH concentration The MSH release induced by these peptides

was

not prevented in rats in which the pituitary gland had been disconnected from the central nervous system by lesioning the median eminence, thus revealing a direct action on the gland. No difference among the effect of the peptides on MSH release was apparent on a molar basis. The dimers (Cys-Tyr-Ile-Gln-Asn)₂ [60564-60-5] and (Cys-Tyr-Phe-Gln-Asn)₂ [51776-42-2] were ineffective in promoting MSH release, as were several other peptides.

IT 51776-42-2 60564-60-5

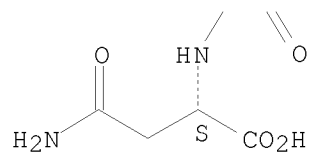
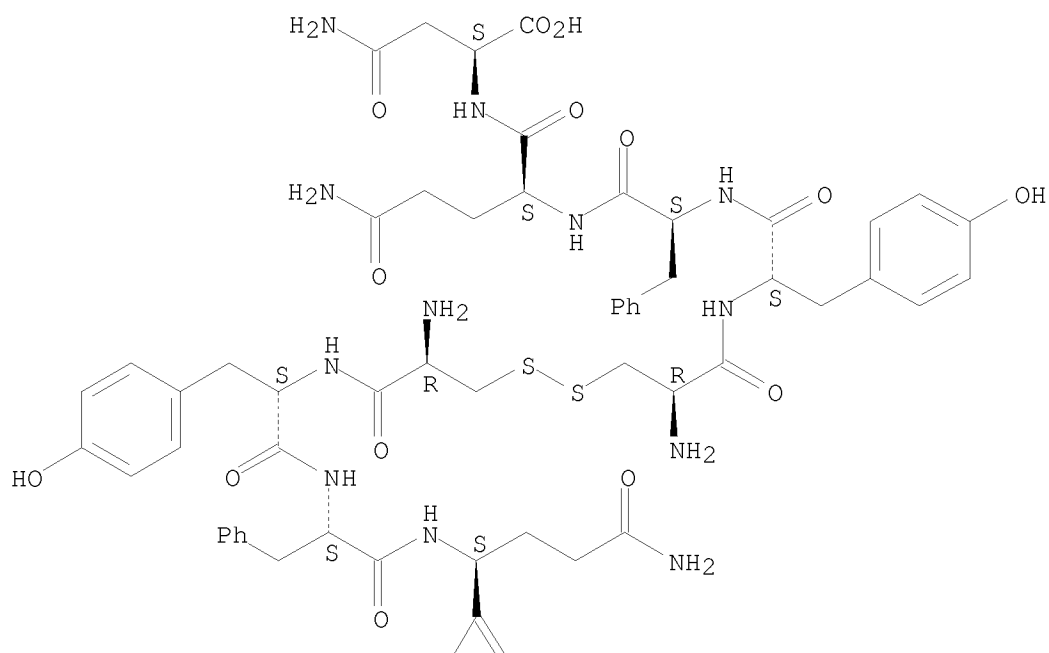
RL: BIOL (Biological study)

(MSH release in relation to)

RN 51776-42-2 CAPLUS

CN L-Asparagine, L-cysteinyl-L-tyrosyl-L-phenylalanyl-L-glutaminy-, bimol. (1-1')-disulfide (9CI) (CA INDEX NAME)

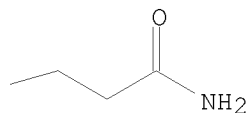
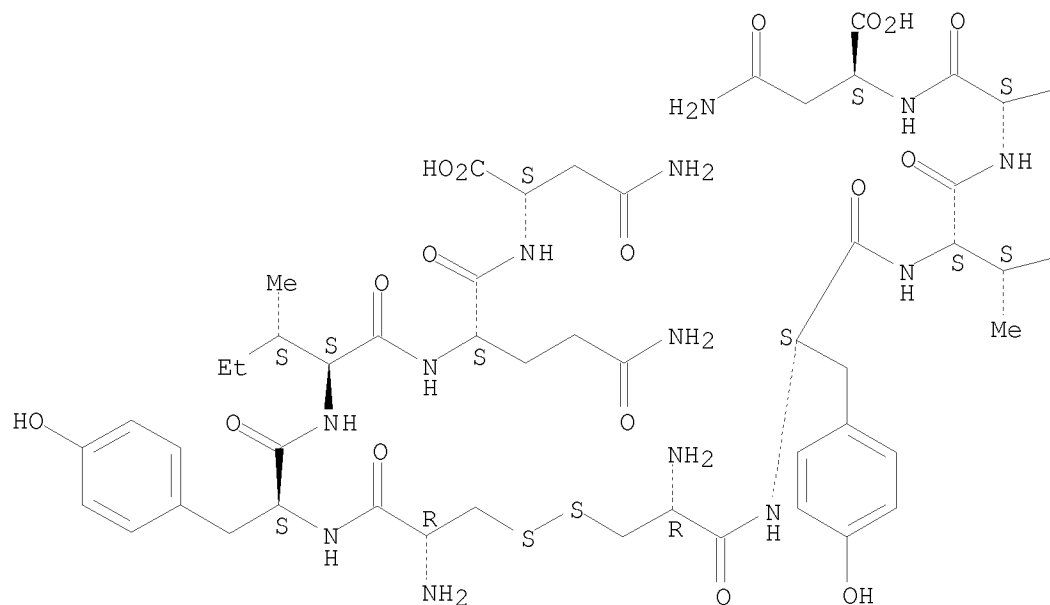
Absolute stereochemistry.



RN 60564-60-5 CAPLUS

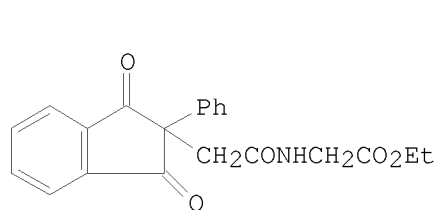
CN L-Asparagine, L-cysteinyl-L-tyrosyl-L-isoleucyl-L-glutaminyl-, bimol.
(1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

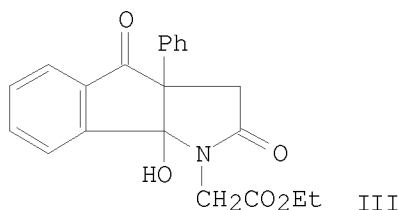


— Et

L5 ANSWER 279 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1976:524324 CAPLUS
 DOCUMENT NUMBER: 85:124324
 ORIGINAL REFERENCE NO.: 85:19969a,19972a
 TITLE: Synthesis of aminocarboxylic acids containing
 2-phenyl-2-carboxymethyl-1,3-indandione
 AUTHOR(S): Minchev, S.; Aleksiev, B.
 CORPORATE SOURCE: Pedagog. Inst., Shumen, Bulg.
 SOURCE: Doklady Bolgarskoi Akademii Nauk (1976), 29(3), 363-6
 CODEN: DBANAD; ISSN: 0366-8681
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 GI



II



III

AB Treatment of amino acids with 2-(2-phenyl-1,3-dioxo-2-indanyl)acetyl chloride (I) gave the corresponding N-indanylacetyl block amino acids. Thus, I reacted with Gly-OEt.HCl to give 71.5% of a mixture of II and III. Treatment of L-cystine di-Et ester dihydrochloride with I gave the bis-N-indanylacetyl substituted cystine.

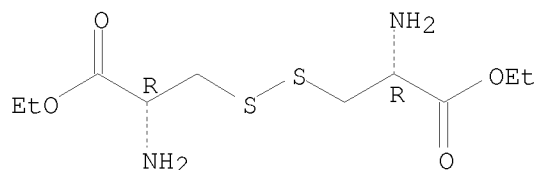
IT 22735-07-5

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phenyldioxoindanylacetyl chloride)

RN 22735-07-5 CAPLUS

CN L-Cystine, diethyl ester, dihydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 280 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1976:407591 CAPLUS

DOCUMENT NUMBER: 85:7591

ORIGINAL REFERENCE NO.: 85:1227a,1230a

TITLE: Surfactants derived from amino acids. II. Surface activities of amino acid ester hydrochlorides

AUTHOR(S): Yoshida, Ryonosuke; Takehara, Masahiro; Sakamoto, Kazutami

CORPORATE SOURCE: Cent. Res. Lab., Ajinomoto Co., Inc., Kawasaki, Japan

SOURCE: Yukagaku (1976), 25(3), 141-4

CODEN: YKGKAM; ISSN: 0513-398X

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

AB Amino acid lauryl ester hydrochlorides had good properties with respect to the lowering power of surface tension, foaming power, and wetting power. The lowering power of surface tension decreased with increasing C number of the amino acid residues, but wetting power increased. The values of critical micelle concentration for L-forms were smaller than those for DL-forms, but there

were no notable differences in solubility, the lowering power of surface tension, foaming power, and wetting power.

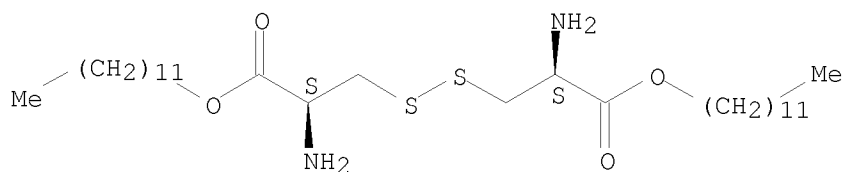
IT 59441-31-5

RL: TEM (Technical or engineered material use); USES (Uses)
(surfactants, properties of)

RN 59441-31-5 CAPLUS

CN Cystine, didodecyl ester, dihydrochloride (9CI) (CA INDEX NAME)

Relative stereochemistry.



●2 HCl

L5 ANSWER 281 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1976:123355 CAPLUS
 DOCUMENT NUMBER: 84:123355
 ORIGINAL REFERENCE NO.: 84:20035a,20038a
 TITLE: Treatment of textile articles with a biochemical substance
 INVENTOR(S): Goujard, Pierre M.
 PATENT ASSIGNEE(S): Fr.
 SOURCE: Fr. Demande, 6 pp.
 CODEN: FRXXBL
 DOCUMENT TYPE: Patent
 LANGUAGE: French
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2256280	A1	19750725	FR 1973-46446	19731226
FR 2256280	B3	19761022		

PRIORITY APPLN. INFO.: FR 1973-46446 A 19731226

AB Textiles useful in the treatment of dry or hyperhydrated skin are prepared by thermal fixation of esculoside on the fiber surface in the presence of cystine or derivs. Thus, drawn, 15 denier nylon 66 fiber is immersed 30 min in a bath containing 1 g/l. Softener (Vibatex AM) and 1.5 g/l. esculoside [531-75-9] (horse chestnut extract), treated with an MeOH solution of 1% (based on fiber) cystine dihexadecyl ester (I) [58379-34-3], and fixed 2 min at 150° to give a fiber cosmetically beneficial to .apprx.100% patients tested, compared with .apprx.75% in the absence of I.

IT 58379-34-3

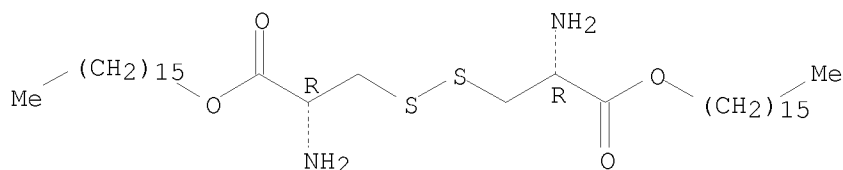
RL: USES (Uses)

(polyamide fibers treated with vitamin P and, for treatment of skin disorders)

RN 58379-34-3 CAPLUS

CN L-Cystine, dihexadecyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 282 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1976:44673 CAPLUS

DOCUMENT NUMBER: 84:44673
ORIGINAL REFERENCE NO.: 84:7360h,7361a
TITLE: Protected hexapeptide corresponding to the B15-20 chain of human insulin, as the symmetrical disulfide
INVENTOR(S): Titov, M. I.; Bessalova, Zh. D.; Leont'eva, L. I.
PATENT ASSIGNEE(S): Zhdanov, A. A., State University, Leningrad, USSR
SOURCE: U.S.S.R. From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1975, 52(42), 58-9.
CODEN: URXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Russian
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 491617	A1	19751115	SU 1972-1810216	19720713
PRIORITY APPLN. INFO.:			SU 1972-1810216	A 19720713

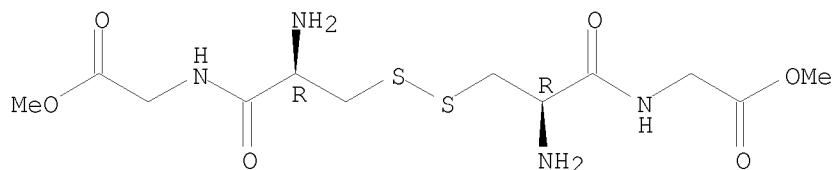
AB The title hexapeptide was prepared by successive condensation of valine with carbobenzoxy-leucine, dicarbobenzoxytyrosine, and o-nitrophenylsulfenylleucine, and cleaving the blocking groups with HBr in HOAc or catalytic hydrogenolysis; the resulting Nps-Leu-Tyr-Leu-Val (Nps = o-O₂NC₆H₄S) was condensed by the carbodiimide method with cystinylbis(glycine Me ester), and the ester groups were hydrolyzed with alkali.

IT 58255-69-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(peptide coupling reactions of)

RN 58255-69-9 CAPLUS

CN Glycine, L-cysteinyl-, methyl ester, bimol. (1→1')-disulfide (9CI)
(CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 283 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1975:514842 CAPLUS
DOCUMENT NUMBER: 83:114842
ORIGINAL REFERENCE NO.: 83:18063a,18066a
TITLE: Excited state chemistry of aromatic amino acids and related peptides. I. Tyrosine
AUTHOR(S): Bent, D. V.; Hayon, E.
CORPORATE SOURCE: Pioneering Res. Lab., U. S. Army Natick Lab., Natick, MA, USA
SOURCE: Journal of the American Chemical Society (1975), 97(10), 2599-606
CODEN: JACSAT; ISSN: 0002-7863
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Optical excitation of phenolic compds. and tyrosine peptides in water was carried out using a pulsed (.apprx.15 nsec duration) frequency quadrupled Nd laser emitting at 265 nm. The compds. studied include phenol, anisole, p-cresol, tyrosine, p-hydroxyphenylpropionic acid, tyramine, tyrosylglycine, N-acetyltyrosylglycine, glycytyrosylglycine, and cystinylbistyrosine. The lifetimes and triplet-triplet absorption spectra

of the triplet states of these compds. were determined. The triplets have τ .apprx.3-10 μ sec and absorb mainly in the uv region. These triplet states are effectively quenched by O (kq .apprx.5 + 10⁹ M⁻¹ sec⁻¹) and by disulfides RSSR (kq .apprx.2-4 + 10⁹ M⁻¹ sec⁻¹). The quenching mechanism consisted of an electron transfer with the formation of the superoxide radical .O₂⁻ and the RSSR⁻ radical anion. A correlation is indicated between the quenching rate consts. of 3Tyr by organosulfur compds. and the reactivity of these compds. toward eaq⁻ (hydrated electron). The photoionization of these phenolic compds. and tyrosyl peptides is shown to occur primarily from the triplet state via a biphotonic process. The pH and temperature dependences of the yields of triplets and photoionization products (eaq⁻ and phenoxy radicals) were examined

IT 7369-94-0

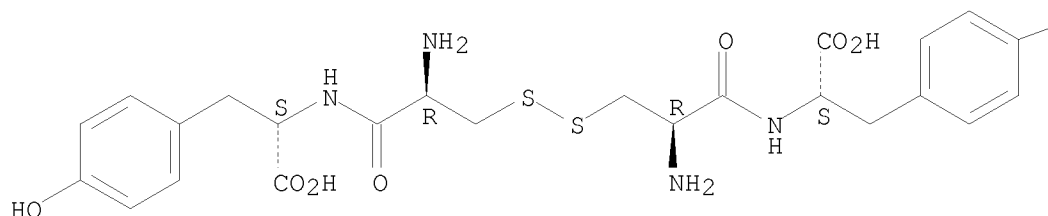
RL: RCT (Reactant); RACT (Reactant or reagent)
(photolysis of, triplet states in)

RN 7369-94-0 CAPLUS

CN L-Tyrosine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

—OH

L5 ANSWER 284 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1975:454972 CAPLUS

DOCUMENT NUMBER: 83:54972

ORIGINAL REFERENCE NO.: 83:8655a,8658a

TITLE: Fast electron reactions in concentrated solutions of amino acids and nucleotides

AUTHOR(S): Aldrich, J. E.; Lam, K. Y.; Shragge, P. C.; Hunt, J. W.

CORPORATE SOURCE: Dep. Med. Biophys., Univ. Toronto, Toronto, ON, Can.

SOURCE: Radiation Research (1975), 63(1), 42-52

CODEN: RAREAE; ISSN: 0033-7587

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A picosecond pulse radiolysis was used to study the electron attachment processes encountered in concentrated solns. (0.1-3M). These highly concentrated

solns. approx. the conditions of a biol. cell. The reaction eaq⁻ + scavenging mol. was observed for a range of biologically important mols. The rate consts. depended on the concentration of the soluble mols. and the pH of

the

solution As well, the initial yield of eaq⁻ at 30 psec was reduced markedly in concentrated solns. of scavengers such as amino acids and mononucleotides; the initial process was too fast to be explained by normal chemical kinetics.

The unique scavenger was the hydrogen ion, H^+ , which caused no observable reduction of the eaq^- yields, but had a normal rate constant of reaction with eaq^- . With other electron scavengers, a general relation between the efficiency of reducing the initial yield of eaq^- and the rate const, $k(\text{eaq}^- + \text{s})$ in concentrated solns. was obtained. This relation

indicated

that both the eaq^- and its precursor react with the same efficiency toward the solute mols.

IT 1069-29-0

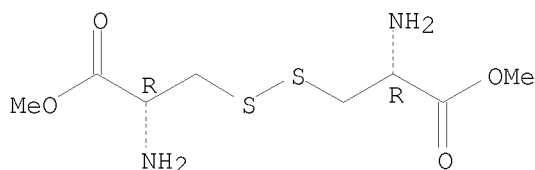
RL: RCT (Reactant); RACT (Reactant or reagent)

(polaron formation and reactivity with, kinetics of)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 285 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1975:178906 CAPLUS

DOCUMENT NUMBER: 82:178906

ORIGINAL REFERENCE NO.: 82:28541a,28544a

TITLE: Crystal and molecular structure of L-cystine dimethyl ester dihydrochloride monohydrate

AUTHOR(S): Vijayalakshmi, B. K.; Srinivasan, R.

CORPORATE SOURCE: Cent. Adv. Study Phys., Univ. Madras, Madras, India

SOURCE: Acta Crystallographica, Section B: Structural Crystallography and Crystal Chemistry (1975), B31(4), 993-8

CODEN: ACBCAR; ISSN: 0567-7408

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The title compound, $\text{C}_8\text{H}_{16}\text{N}_2\text{O}_4\text{S}_2 \cdot 2\text{HCl} \cdot \text{H}_2\text{O}$, is monoclinic, space group P21, with a 14.80, b 9.34, c 5.85 Å, β 91.47°, and Z = 2. The structure was solved by the heavy-atom method and refined by block-diagonal least-squares calcns. to a final R of 0.103 for 1620 observed reflections. The structure is stabilized by an extensive network of H bonds. The disulfide dihedral angle is 84.4°. The helical sense of the cystinyl group in the mol. is left.

IT 55426-76-1

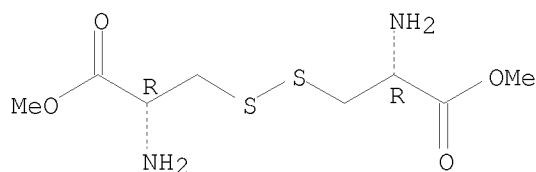
RL: PRP (Properties)

(crystal structure of)

RN 55426-76-1 CAPLUS

CN L-Cystine, dimethyl ester, dihydrochloride, monohydrate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

● H₂O

L5 ANSWER 286 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1975:149111 CAPLUS

DOCUMENT NUMBER: 82:149111

ORIGINAL REFERENCE NO.: 82:23743a,23746a

TITLE: Detection of lysergic acid diethylamide, Δ^9 -tetrahydrocannabinol, and related compounds by plasma chromatography

AUTHOR(S): Karasek, F. W.; Karasek, D. E.; Kim, S. H.

CORPORATE SOURCE: Dep. Chem., Univ. Waterloo, Waterloo, ON, Can.

SOURCE: Journal of Chromatography (1975), 105(2), 345-52

CODEN: JOCRAM; ISSN: 0021-9673

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Plasma chromatog. as a method for ultratrace qual. and quant. detection of organic compds. is especially well suited for detection of gas chromatog. effluents. The optimum range of sample quantity is 10⁻⁶ to 10⁻¹² g for detection and identification of a compound by use of its characteristic pos. and neg. mobility spectra. The type of reference mobility spectra produced by alkanes, aroms., esters, halogenated compds., nitrogenated compds. and organic acids have been previously reported. This study presents the reference mobility spectra produced for lysergic acid diethylamide (LSD) [50-37-3], Δ^9 -tetrahydrocannabinol (Δ^9 -THC) [1972-08-3], digitoxigenin [143-62-4] and several biochem. compds. of research significance. LSD and Δ^9 -THC in a mixture can be detected and identified by plasma chromatog. pos. mobility spectra in quantities of 10⁻⁷ g or less. All the compds. investigated in this study display strong MH⁺ ions along with other ions primarily of the type (M)NO⁺, (M)2H⁺. None of these compds. exhibits neg. mobility spectra.

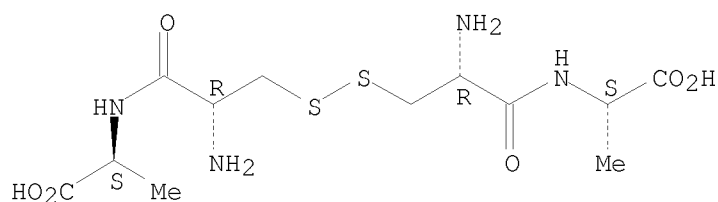
IT 20898-21-9

RL: ANT (Analyte); ANST (Analytical study)
(detection of, by plasma chromatog.)

RN 20898-21-9 CAPLUS

CN L-Alanine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 287 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1975:107860 CAPLUS
 DOCUMENT NUMBER: 82:107860
 ORIGINAL REFERENCE NO.: 82:17215a,17218a
 TITLE: Gallbladder bile peptides and their structure
 AUTHOR(S): Konomi, Kohki; Yamamoto, Hiroshi; Nishimura, Masaya
 CORPORATE SOURCE: Fac. Med., Kyushu Univ., Fukuoka, Japan
 SOURCE: Japanese Journal of Surgery (1974), 4(1), 48-55
 CODEN: JJSGAY; ISSN: 0047-1909
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Bile peptides were isolated from human gallbladder bile by salting-in column chromatog. in a silica gel-(NH₄)₂SO₄ system or by a salting out method with (NH₄)₂SO₄. Four peptides were isolated and their amino acid sequences were determined. Of the 4 peptides isolated, some contained β-alanine or allo-γ-hydroxyglutamic acid which are not found in usual proteins. These peptides may have some physiol. significance.

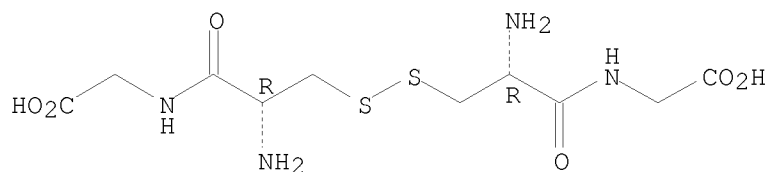
IT 7729-20-6

RL: BIOL (Biological study)
 (of bile of gallbladder)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 288 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1975:4557 CAPLUS
 DOCUMENT NUMBER: 82:4557
 ORIGINAL REFERENCE NO.: 82:795a,798a
 TITLE: The acetamidomethyl radical as protecting group for the cysteine sulfur in the solid phase peptide synthesis according to Merrifield
 AUTHOR(S): Hermann, P.; Schreier, E.
 CORPORATE SOURCE: Phys.-Chem. Inst., Martin-Luther-Univ. Halle-Wittenberg, Halle/Saale, Ger. Dem. Rep.
 SOURCE: Journal fuer Praktische Chemie (Leipzig) (1974), 316(5), 719-28
 CODEN: JPCEAO; ISSN: 0021-8383
 DOCUMENT TYPE: Journal
 LANGUAGE: German

AB The suitability of the AcNHCH₂(Acm)-group as S-protecting group for cysteine in Merrifield peptide syntheses was shown by synthesis of Cys(Acm)-Ala-Gly. Cys(Acm)-OH was prepared from AcOH and cysteine and separation on an acid cation exchanger. The acylation of Cys-(Acm)-OH with tert-butoxycarbonyl azide (BocN₃) was performed according to the pH-stat method and yielded 82% Boc-Cys-(Acm)-OH.

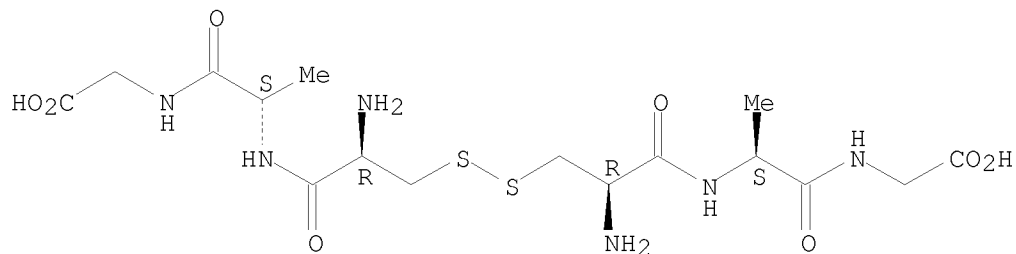
IT 55023-95-5P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

RN 55023-95-5 CAPLUS

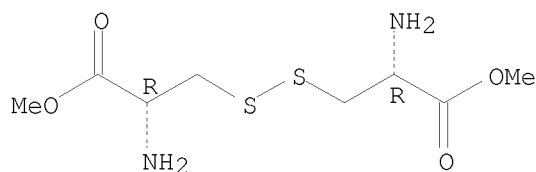
CN Glycine, L-cysteinyl-L-alanyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 289 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1974:569824 CAPLUS
DOCUMENT NUMBER: 81:169824
ORIGINAL REFERENCE NO.: 81:26291a,26294a
TITLE: Carbon-13 NMR studies on the dissociation equilibriums of amino thiol compounds
AUTHOR(S): Jung, G.; Breitmaier, E.; Guenzler, W. A.; Ottnad, M.; Voelter, W.; Flohe, L.
CORPORATE SOURCE: Chem. Inst., Univ. Tuebingen, Tuebingen, Fed. Rep. Ger.
SOURCE: Glutathione, Proc. Conf. Ger. Soc. Biol. Chem., 16th (1974), Meeting Date 1973, 1-15. Editor(s): Flohe, Leopold. Thieme: Stuttgart, Ger.
CODEN: 29FCAO
DOCUMENT TYPE: Conference
LANGUAGE: English
AB Carbon-13 NMR dependence of cysteine, reduced and oxidized glutathione, and related amino thiols on temperature, pH, and concentration was studied as a reflection of their electronic structure.
IT 32854-09-4
RL: PRP (Properties)
(carbon-13 NMR studies of)
RN 32854-09-4 CAPLUS
CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 290 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1974:450006 CAPLUS
DOCUMENT NUMBER: 81:50006
ORIGINAL REFERENCE NO.: 81:7991a,7994a
TITLE: Synthesis and reactions of α -thioformyl dipeptides, possible biogenetic precursors of penicillin
AUTHOR(S): Cheney, John; Moores, Clive J.; Raleigh, James A.; Scott, A. Ian; Young, Douglas W.

CORPORATE SOURCE: Sch. Mol. Sci., Univ. Sussex, Brighton, UK
SOURCE: Journal of the Chemical Society, Perkin Transactions
1: Organic and Bio-Organic Chemistry (1972-1999)
(1974), (9), 986-98
CODEN: JCPRB4; ISSN: 0300-922X

DOCUMENT TYPE: Journal
LANGUAGE: English

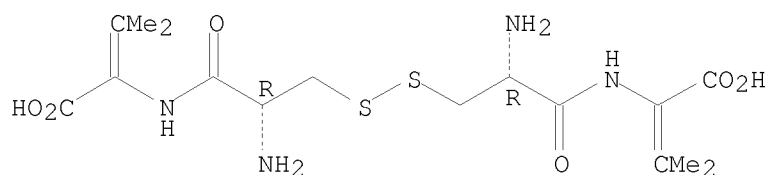
AB The existence of unstable thioformyldipeptides, prepared by various routes, was verified by trapping expts. At room temperature the thio aldehydes polymerized readily and at lower temps. the thienol forms were stabilized. Polymerization alone occurred when thioenolization was prevented by the presence of an α -methyl substituent.

IT 53267-39-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 53267-39-3 CAPLUS

CN Valine, L-cysteinyl-2,3-didehydro-, bimol. (1 \rightarrow 1')-disulfide (9CI)
(CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 291 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1974:105037 CAPLUS

DOCUMENT NUMBER: 80:105037

ORIGINAL REFERENCE NO.: 80:16874h,16875a

TITLE: Small peptides as analogs of oxytocin and vasopressin in their interactions with bovine neurophysin-II

AUTHOR(S): Breslow, Esther; Weis, Jane; Menedez-Botet, Celia J.

CORPORATE SOURCE: Med. Coll., Cornell Univ., New York, NY, USA

SOURCE: Biochemistry (1973), 12(23), 4644-53

CODEN: BICHAW; ISSN: 0006-2960

DOCUMENT TYPE: Journal

LANGUAGE: English

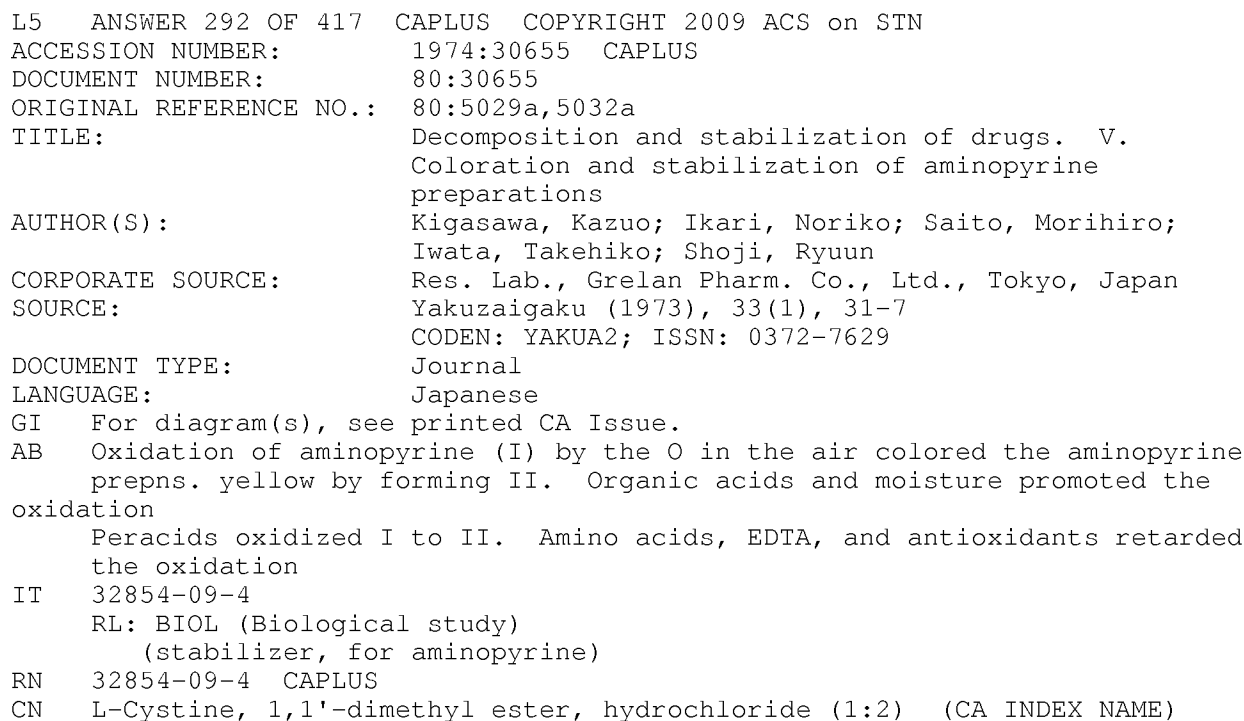
AB CD and proton titration studies of mixts. of native or nitrated bovine neurophysin II and lysine vasopressin confirm that there is one principal site for lysine vasopressin of very similar properties to the single oxytocin site. Expts. with a series of peptide analogs of the first 2-3 residues of the 2 hormones indicated that peptides containing only the first 3 residues of the hormones contribute almost 2/3 of the binding free energy of the hormones and that half of the binding free energy is contributed by the cooperative binding of residues 1 and 2. Oxytocin, lysine vasopressin, and appropriate tripeptides all increased the sedimentation velocity of bovine neurophysin-II by .apprx.20%, indicating a change in protein conformation and(or) a small shift in monomer \leftrightarrow dimer equilibrium on binding.

IT 52329-45-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with neurophysins II)

RN 52329-45-0 CAPLUS

CN L-Tyrosinamide, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

COC(=O)[C@H](N)CCSS[C@H](N)C(=O)OC

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L5      ANSWER 293 OF 417  CAPLUS  COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER:          1974:19553  CAPLUS
DOCUMENT NUMBER:           80:19553
ORIGINAL REFERENCE NO.:    80:3207a,3210a
TITLE:                      Pentapeptides as psychodrugs

```

INVENTOR(S): Greven, Hendrik M.; De Wied, David
 PATENT ASSIGNEE(S): AKZO N. V.
 SOURCE: Ger. Offen., 21 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
DE 2305727	A1	19730816	DE 1973-2305727	19730206
DE 2305727	C2	19831027		
NL 7201604	A	19730810	NL 1972-1604	19720208
NL 175293	B	19840516		
NL 175293	C	19841016		
ZA 7300585	A	19731031	ZA 1973-585	19730126
US 3835110	A	19740910	US 1973-327260	19730129
GB 1417318	A	19751210	GB 1973-4646	19730130
CH 591428	A5	19770915	CH 1973-1576	19730205
FR 2171188	A1	19730921	FR 1973-4138	19730206
JP 48091031	A	19731127	JP 1973-15451	19730207
JP 59005578	B	19840206		
HU 169156	B	19761028	HU 1973-AO349	19730207
SE 392612	B	19770404	SE 1973-1662	19730207
CA 1010022	A1	19770510	CA 1973-163083	19730207
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PRIORITY APPLN. INFO.:

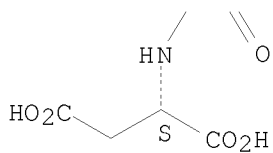
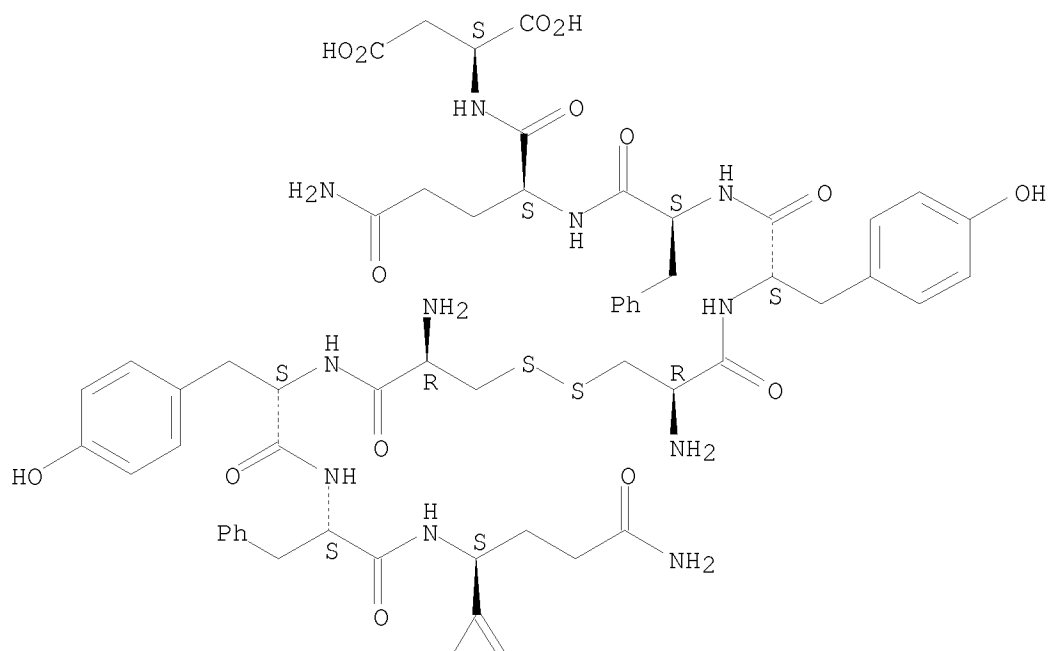
AB The pentapeptide Cys-Tyr-Phe-Glu(X)-Asp(X) (I, X = NH₂) and its dimer (S-S bridge) showed a beneficial effect on avoidance response of white rats. It was twice as potent as lysine-vasopressin with a smaller rise in blood pressure. Preparation of nine I (X = mainly OH, NH₂, NHMe, NMe₂) and dimers is described, as well as animal tests. Formulations are given for solns. for oral administration and injection (X = NH₂) and for a granular mixture (X = OH).

IT 51442-49-0P 51442-50-3P 51442-51-4P
 51442-52-5P 51442-53-6P 51442-54-7P
 51442-55-8P 51442-56-9P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

RN 51442-49-0 CAPLUS

CN L-Aspartic acid, L-cysteiny-L-tyrosyl-L-phenylalanyl-L-glutaminyL-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

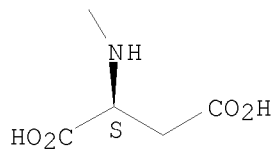
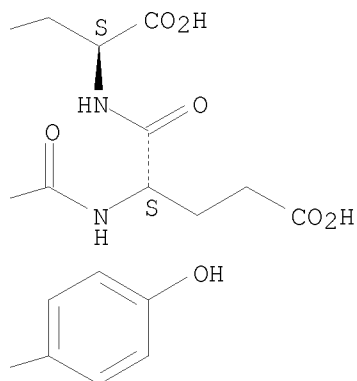
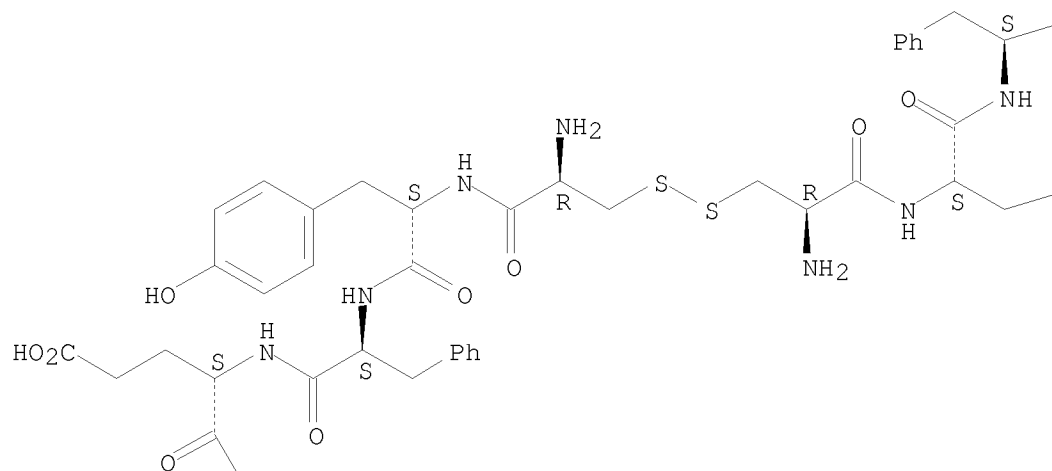


RN 51442-50-3 CAPLUS

CN L-Aspartic acid, L-cysteinyl-L-tyrosyl-L-phenylalanyl-L- α -glutamyl-,
bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

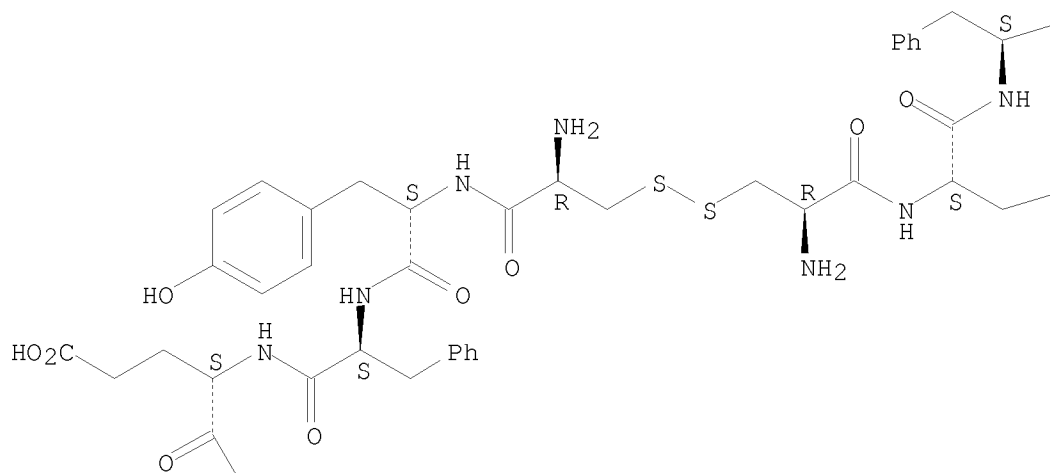
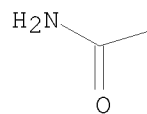
HO₂C



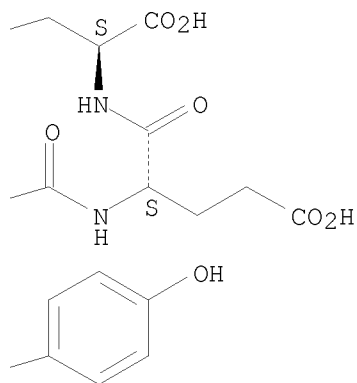
RN 51442-51-4 CAPLUS
 CN L-Asparagine, L-cysteinyl-L-tyrosyl-L-phenylalanyl-L- α -glutamyl-,
 bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

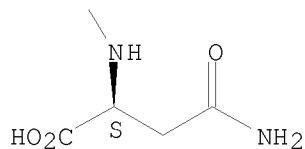
PAGE 1-A



PAGE 1-B



PAGE 2-A

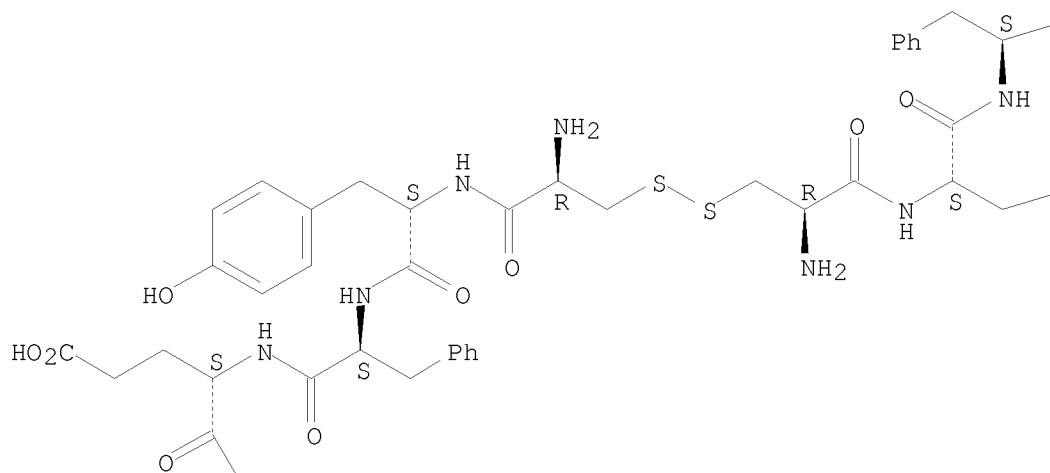
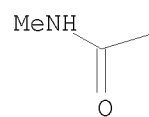


RN 51442-52-5 CAPLUS

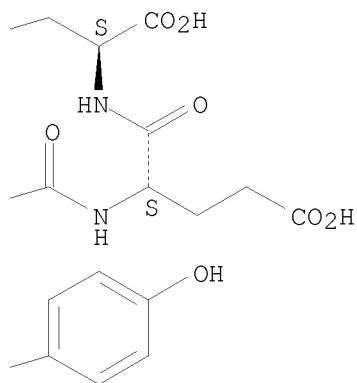
CN L-Asparagine, L-cysteinyl-L-tyrosyl-L-phenylalanyl-L- α -glutamyl-N-methyl-, bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

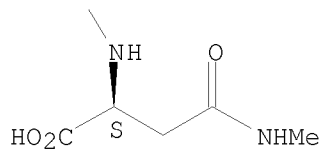
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PAGE 1-B

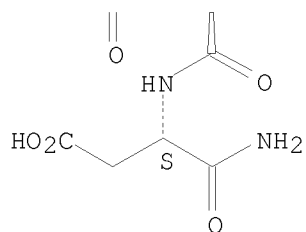
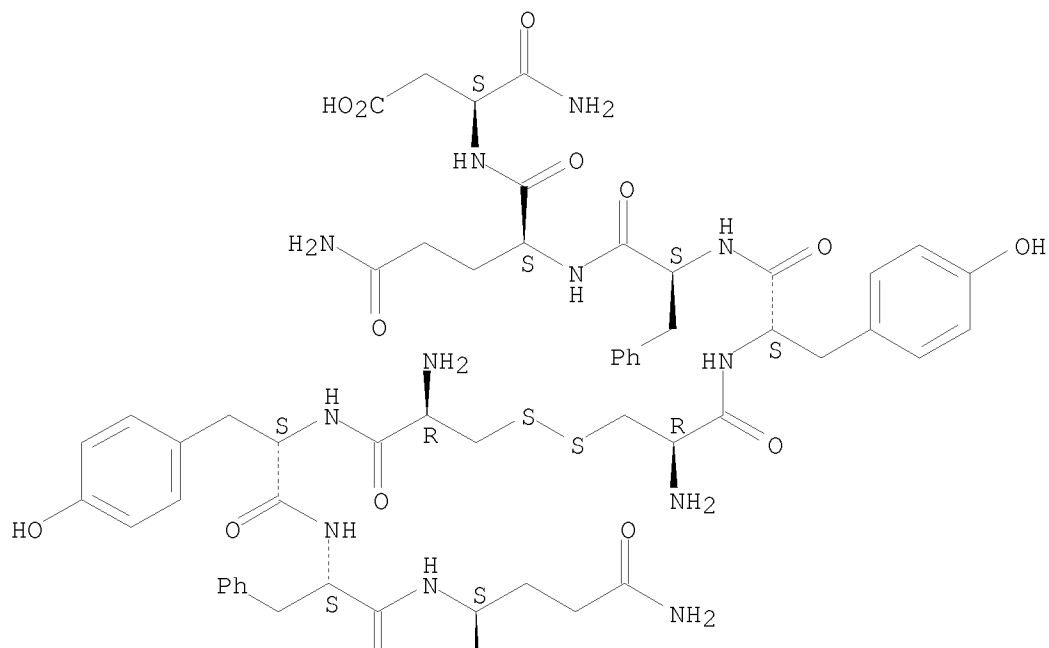


PAGE 2-A



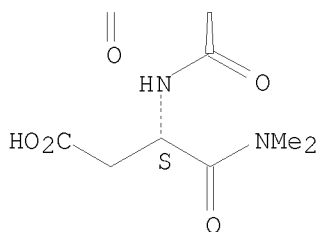
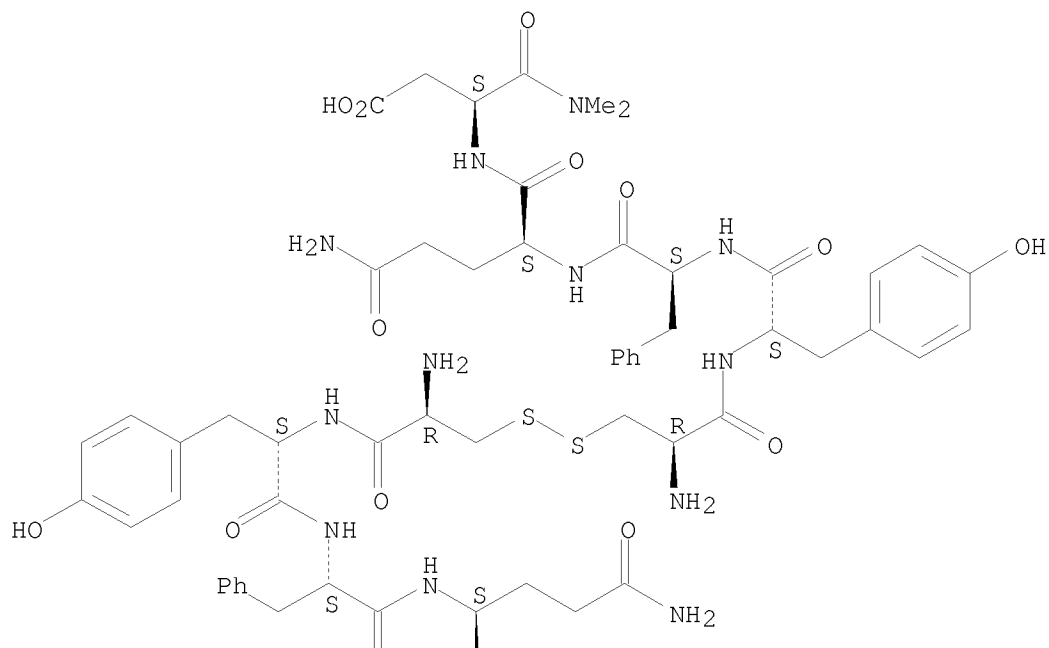
RN 51442-53-6 CAPLUS
 CN L- α -Asparagine, L-cysteinyl-L-tyrosyl-L-phenylalanyl-L-glutaminy-,
 bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



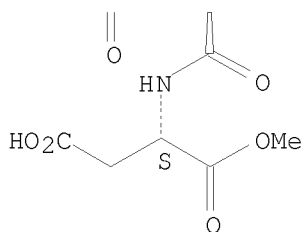
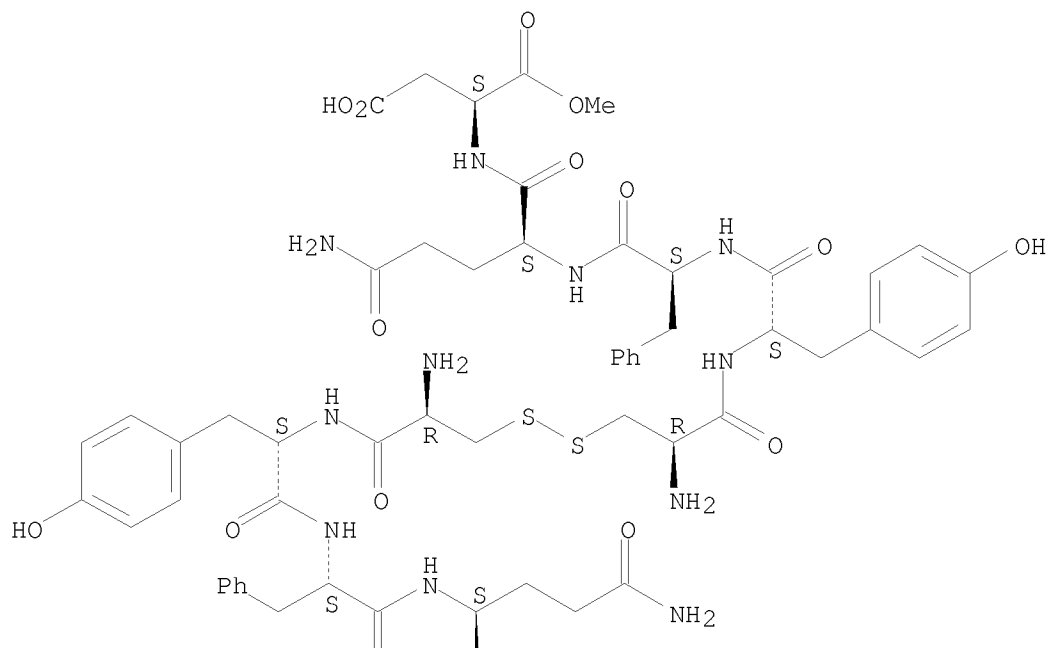
RN	51442-54-7	CAPLUS
CN	L- α -Asparagine, L-cysteinyl-L-tyrosyl-L-phenylalanyl-L-glutaminyl-N,N-dimethyl-, bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)	

Absolute stereochemistry.



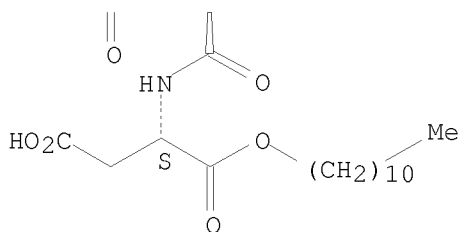
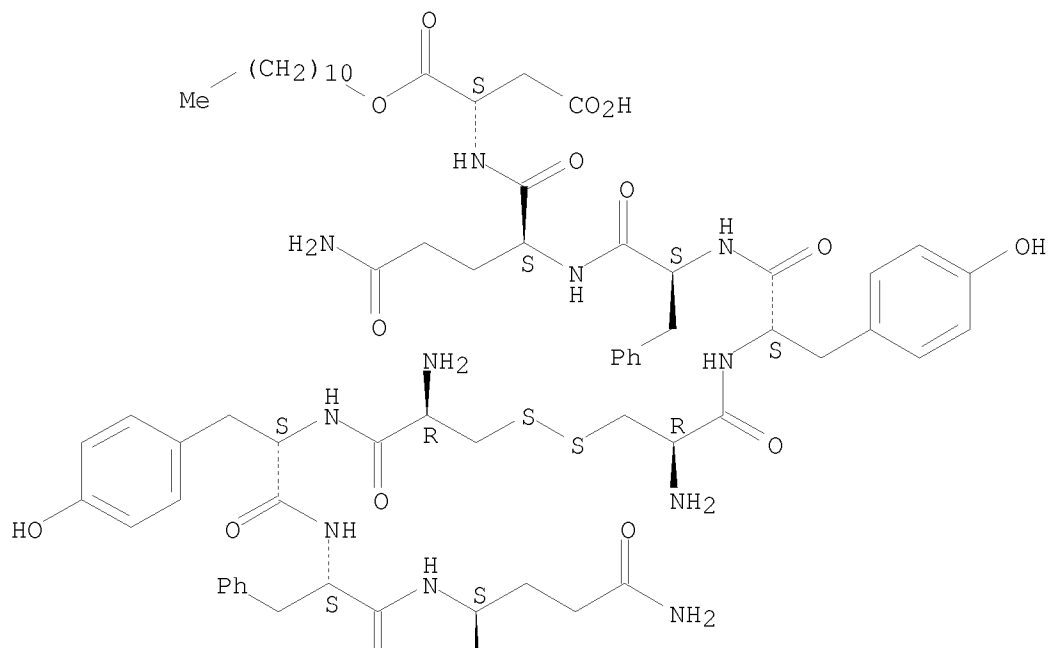
RN 51442-55-8 CAPLUS
 CN L-Aspartic acid, L-cysteinyl-L-tyrosyl-L-phenylalanyl-L-glutaminyl-,
 51-methyl ester, bimol. (1-1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



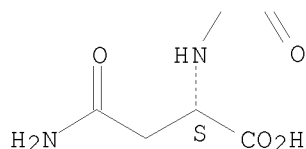
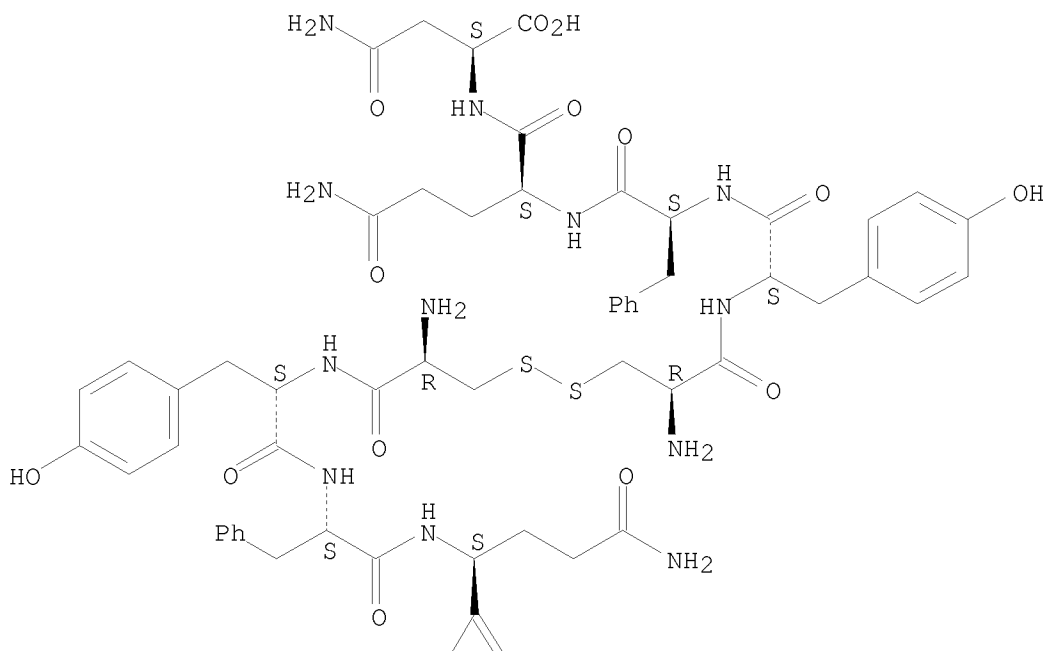
RN 51442-56-9 CAPLUS
 CN L-Aspartic acid, L-cysteinyl-L-tyrosyl-L-phenylalanyl-L-glutaminyl-,
 51-undecyl ester, bimol. (1-1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 51776-42-2
 RL: BAC (Biological activity or effector, except adverse); BIOL
 (Biological study)
 (psychotropic)
 RN 51776-42-2 CAPLUS
 CN L-Asparagine, L-cysteinyl-L-tyrosyl-L-phenylalanyl-L-glutaminyl-, bimol.
 (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 294 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1973:533785 CAPLUS

DOCUMENT NUMBER: 79:133785

ORIGINAL REFERENCE NO.: 79:21675a,21678a

TITLE: Rate constants for the reaction of the carbonate radical with compounds of biochemical interest in neutral aqueous solution

AUTHOR(S): Chen, Schoen-Nan; Hoffman, Morton Z.

CORPORATE SOURCE: Dep. Chem., Boston Univ., Boston, MA, USA

SOURCE: Radiation Research (1973), 56(1), 40-7

CODEN: RAREAE; ISSN: 0033-7587

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The rate consts. for the reactions of CO₃⁻ radicals (in their conjugate acid form, CO₃H) in neutral aqueous solution have been measured for 36 compds. of

biochem. interest, including amino acids, S-containing-compds., and enzymes. The rate consts. are low ($k < 10^5$ M⁻¹ sec⁻¹) for the nonS-containing aliphatic compds. but higher ($k = 10^6 - 10^7$ M⁻¹ sec⁻¹) for the S compds. Aromatic species show variations in the reactivity depending on the nature of the aromatic system; the highest rates ($k > 10^8$ M⁻¹ sec⁻¹) are shown by indole and its derivs. The reactivity of the enzymes generally reflects the reactivity of the constituent aromatic amino acids.

IT 1069-29-0

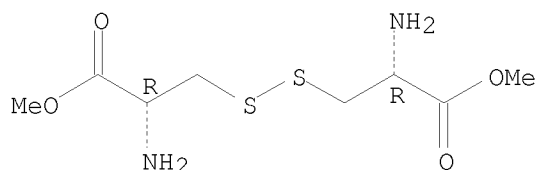
RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with carbonate radical)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 295 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1973:533146 CAPLUS

DOCUMENT NUMBER: 79:133146

ORIGINAL REFERENCE NO.: 79:21559a,21562a

TITLE: Cardiovascular effects of some peptide analogs consisting of cystine and/or tyrosine

AUTHOR(S): Yamatake, Yoshikazu; Kato, Hitoshi; Takagi, Keijiro

CORPORATE SOURCE: Fac. Pharm. Sci., Univ. Tokyo, Tokyo, Japan

SOURCE: Chemical & Pharmaceutical Bulletin (1973), 21(5), 1157-60

CODEN: CPBTAL; ISSN: 0009-2363

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The synthetic peptides, L-cystine diethyl ester-2HCl [22735-07-5], L-cystinyl-di-L-tyrosine ethyl ester-2HBr [42380-72-3], L-cystinyl-di-L-tyrosyl-L-tyrosine ethyl ester-2HBr [42380-73-4], dicarbobenzoxy-L-cystinyl-di-L-tyrosyl-L-tyrosine ethyl ester [33508-32-6], and L-tyrosyl-L-tyrosine ethyl ester-HBr [16789-91-6], decreased blood pressure and heart rate in rats and decreased vascular resistance in dogs but they did not antagonize the pressor action of vasopressin [11000-17-2] in either species. These results are in contrast to the antagonistic action of these peptides against oxytocin in the isolated rat uterus.

IT 22735-07-5 42380-72-3 42380-73-4

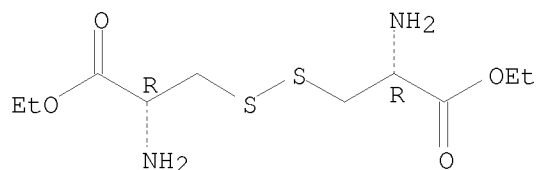
RL: BIOL (Biological study)

(circulation response to)

RN 22735-07-5 CAPLUS

CN L-Cystine, diethyl ester, dihydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.



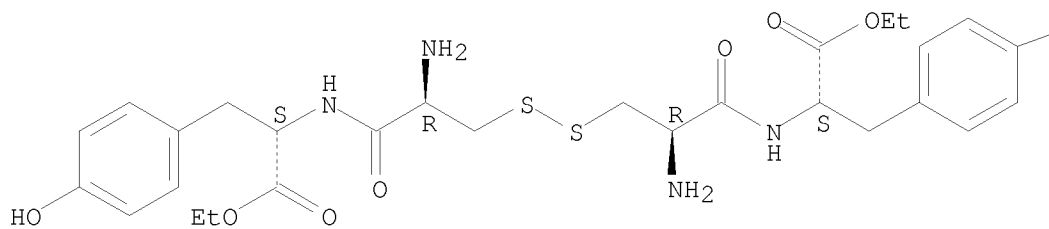
● 2 HCl

RN 42380-72-3 CAPLUS

CN L-Tyrosine, L-cysteinyl-, ethyl ester, bimol. (1→1')-disulfide, dihydrobromide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



● 2 HBr

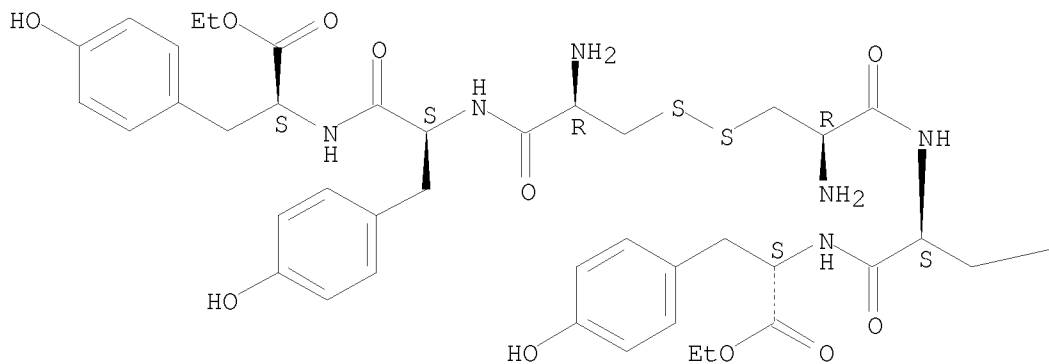
PAGE 1-B

—OH

RN 42380-73-4 CAPLUS
 CN L-Tyrosine, L-cysteinyl-L-tyrosyl-, ethyl ester, bimol.
 (1-1')-disulfide, dihydrobromide (9CI) (CA INDEX NAME)

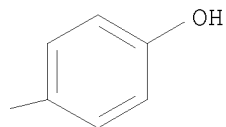
Absolute stereochemistry.

PAGE 1-A



● 2 HBr

PAGE 1-B



L5 ANSWER 296 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1973:453770 CAPLUS

DOCUMENT NUMBER: 79:53770

ORIGINAL REFERENCE NO.: 79:8683a,8686a

TITLE: Preparation of indenonyl-modified glutathione in an oxidized form

AUTHOR(S): Nishanyan, P. G.; Shamlyan, P. P.; Aleksiev, Boris V.

CORPORATE SOURCE: Inst. Chem. Technol., Sofia, Bulg.

SOURCE: Doklady Bolgarskoi Akademii Nauk (1973), 26(2), 195-8
CODEN: DBANAD; ISSN: 0366-8681

DOCUMENT TYPE: Journal

LANGUAGE: English

GI For diagram(s), see printed CA Issue.

AB 2-p-Aminophenyl-3-phenylinden-1-one (DPI-NH₂) was used to block the carboxyl group of glycine in the synthesis of peptides. DPI-NH₂ reacted with PhCH₂O₂CNHCH₂CO₂H in EtOAc containing dicyclohexylcarbodiimide (I) gave Z-Gly-NHDPI (Z = PhCH₂O₂C), which was treated with HBr in HOAc to yield 98.2% Gly-NHDPI (II). Condensation of II with Z-protected L-cystine gave 30.2% III, which was deprotected with HBr and HOAc and treated with LPhCH₂O₂CNHCH(CO₂Et)CH₂CH₂CO₂H in THF containing I to give 63.1% title product (IV).

IT 42428-95-5P

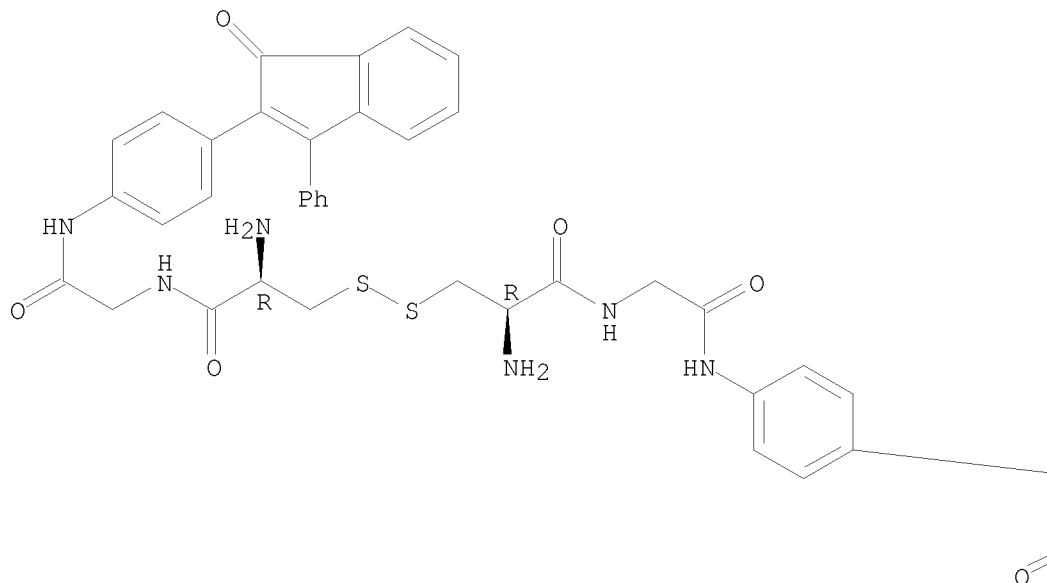
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

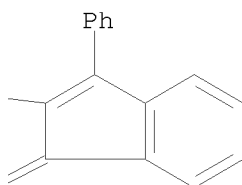
RN 42428-95-5 CAPLUS

CN Glycinamide, L-cysteinyl-N-[4-(1-oxo-3-phenyl-1H-inden-2-yl)phenyl]-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A





L5 ANSWER 297 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1973:414718 CAPLUS

DOCUMENT NUMBER: 79:14718

ORIGINAL REFERENCE NO.: 79:2363a,2366a

TITLE: Circular dichroism of a model compound of L-cystine residue. N,N'-diacetyl-L-cystine bismethylamide

AUTHOR(S): Takagi, Toshio; Okano, Ritsuko; Miyazawa, Tatsuo

CORPORATE SOURCE: Inst. Protein Res., Osaka Univ., Suita, Japan

SOURCE: Biochimica et Biophysica Acta, Protein Structure (1973), 310(1), 11-19

CODEN: BBPTBH; ISSN: 0005-2795

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The CD and its temperature dependence were studied with N,N'-diacetyl-L-cystine bismethylamide, a model compound of the L-cystine residue in proteins. A near-uv CD band assignable to the disulfide chromophore showed significant dependence on temperature similar to that observed for the same chromophore of L-cystine (Takagi, T.; Ito, N., 1972). The CD bands of the peptide groups of N,N'-diacetyl-L-cystine bismethylamide depended significantly on temperature. This temperature dependence was probably related to the intramol. interaction between adjacent peptide chromophores, from the comparison with the temperature dependence of the CD spectra of N-acetyl-L-alanine ethylamide.

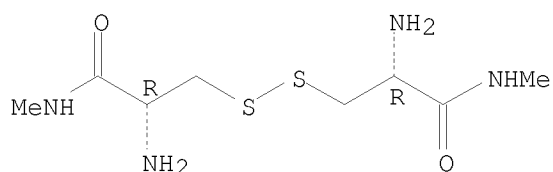
IT 42588-96-5

RL: RCT (Reactant); RACT (Reactant or reagent)
(acetylation of)

RN 42588-96-5 CAPLUS

CN Propanamide, 3,3'-dithiobis[2-amino-N-methyl-, dihydrobromide,
[R-(R*,R*)]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HBr

L5 ANSWER 298 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1973:401906 CAPLUS

DOCUMENT NUMBER: 79:1906

ORIGINAL REFERENCE NO.: 79:359a,362a

TITLE: Peptide acceptors in the arginine transfer reaction

AUTHOR(S): Soffer, Richard L.

CORPORATE SOURCE: Div. Biol. Sci., Albert Einstein Coll. Med., Bronx, NY, USA

SOURCE: Journal of Biological Chemistry (1973), 248(8), 2918-21

CODEN: JBCHA3; ISSN: 0021-9258

DOCUMENT TYPE: Journal

LANGUAGE: English

AB To determine whether small peptides could function as acceptors in the reaction catalyzed by arginyl-tRNA-protein transferase, they were tested for their ability to inhibit the transfer of arginine-14C from tRNA to bovine albumin, and reaction mixts. containing them were examined by paper electrophoresis for the presence of new radioactive products. Among di- and tripeptides containing 17 different N-terminal residues, only those with glutamic acid, aspartic acid, and, to a lesser extent, cystine were inhibitory. Inhibition was competitive with albumin and associated with the peptide-dependent formation of a new radioactive product. When Glu-Ala was used as inhibitor, the product was isolated and identified as Arg-Glu-Ala. A marked variation in K_i values was observed for different di- and tripeptides containing appropriate N-terminal residues, suggesting that, in addition to an N-terminal dicarboxylic amino acid, other residues influence substrate specificity in this reaction. Certain nonpeptide derivs. of the dicarboxylic acids also served as acceptors. Isoasparagine and isoglutamine were the best substrates among these compds., and acceptor specificity was related to the presence of a blocked α -carboxyl and an unsubstituted β - or γ -carboxyl group.

IT 20898-21-9

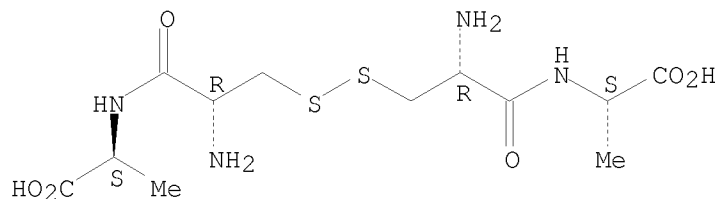
RL: BIOL (Biological study)

(as arginyltransferase acceptor)

RN 20898-21-9 CAPLUS

CN L-Alanine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 299 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1973:166550 CAPLUS

DOCUMENT NUMBER: 78:166550

ORIGINAL REFERENCE NO.: 78:26675a,26678a

TITLE: Disulfide vibrational spectra in the sulfur-sulfur and carbon-sulfur stretching region

AUTHOR(S): Bastian, Ernest J., Jr.; Martin, R. Bruce

CORPORATE SOURCE: Chem. Dep., Univ. Virginia, Charlottesville, VA, USA

SOURCE: Journal of Physical Chemistry (1973), 77(9), 1129-33

CODEN: JPCHAX; ISSN: 0022-3654

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The strong Raman S-S stretching wave number from 498 to 511 cm⁻¹ in a variety of disulfides was independent of the dihedral CSSC angle from 20 to near 90°. No correlation existed between the Raman intensity ratio for C-S and S-S stretching bands and the CSS angle. From a PMR anal. of relative rotamer populations in isobutyl disulfide, the molar intensity of the C-S stretching band at 707 cm⁻¹ due to a rotamer with anti S and Me groups was twice that at 665 cm⁻¹ due to the rotamer with anti S and H atoms. The inverse conclusion applied to the intensities in isobutyl chloride where Cl replaced S. Conformational rigidity in trans-2,3-dithiadecalin permitted the assignment of an S-S stretching band at 506 cm⁻¹ and a C-S stretching band at 719 cm⁻¹ to specific conformers. Identification of C-S wave nos. and rotamers similar to the above was applicable to other disulfides. Unfortunately, cystine and its derivs., known to possess significant amts. of each of 3 ethanic rotamers in solution, exhibited only 1 C-S stretching Raman band. This result limited the utility of Raman spectra for the determination of the conformation in cystine

and

its derivs.

IT 32854-09-4

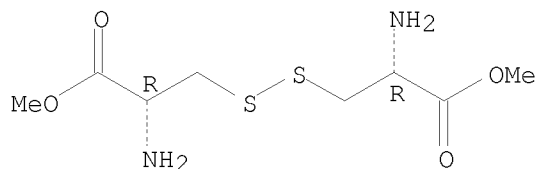
RL: PRP (Properties)

(vibrational spectrum of, conformation in relation to)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 300 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1973:136663 CAPLUS

DOCUMENT NUMBER: 78:136663

ORIGINAL REFERENCE NO.: 78:21965a,21968a

TITLE: Alkylidene and arylidene amino acid esters, and alkyl and aryl amino acid esters

INVENTOR(S): Davis, Jefferson W.

SOURCE: U.S., 5 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

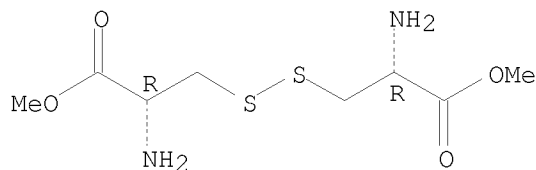
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	US 3718688	A	19730227	US 1967-676057	19671018
PRIORITY APPLN. INFO.:				US 1967-676057	A 19671018
AB	Amino acid esters were converted to their N-isobutylidene derivs. by treatment with Me ₂ CHCHO. The N-isobutylideneamino acids were easier to sep. by gas chromatog. than the free amino acids or their esters. They could be reduced to their isobutyl derivs. Thus, 17 g leucine Me ester was treated with 10 g Me ₂ CHCHO at room temperature to give 19.1 g N-isobutylideneleucine Me ester (I). Zn-MeOH reduction of 10 g I yielded 8.2 g N-isobutylleucine Me ester. I had a retention time of 11.1 min at 102° on a Carbowax column with N carrier gas.				
IT	32854-09-4 RL: RCT (Reactant); RACT (Reactant or reagent) (reaction of, with isobutyraldehyde)				
RN	32854-09-4 CAPLUS				
CN	L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)				

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 301 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1973:75871 CAPLUS
 DOCUMENT NUMBER: 78:75871
 ORIGINAL REFERENCE NO.: 78:12043a,12046a
 TITLE: Compositions for treating exudative, parakeratotic, or gynecological diseases
 INVENTOR(S): Morelle, Jean Valentin; Lauzanane, Eliane M. T.
 SOURCE: Fr. M., 6 pp.
 CODEN: FMXXAJ
 DOCUMENT TYPE: Patent
 LANGUAGE: French
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	FR 8205		19701026	FR 1968-179382	19681220
OTHER SOURCE(S):	MARPAT 78:75871				
AB	Fatty acid amides of L-cystine, particularly N-diacyl derivs. [RCONHCH(CO ₂ H)CH ₂] ₂ S ₂ of the type described in Fr. 1,462,498 were used in the title compns. Thus, a lotion containing 2 parts dicaprylyl-L-cystine and 98 parts EtOH was prepared Three addnl. compds. and seven compns. were described. For parakeratotic treatment partially peroxidized N-diacyl-L-cystine derivs. were specified.				
IT	41984-12-7 RL: BIOL (Biological study) (pharmaceutical, for reproductive tract and skin disease treatment)				
RN	41984-12-7 CAPLUS				

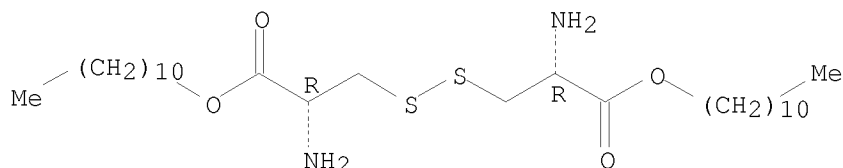
CN L-Cystine, diundecenyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 48077-68-5

CMF C28 H56 N2 O4 S2

Absolute stereochemistry.



L5 ANSWER 302 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1973:16463 CAPLUS

DOCUMENT NUMBER: 78:16463

ORIGINAL REFERENCE NO.: 78:2622h, 2623a

TITLE: One-electron reduction of the disulfide linkage in aqueous solution. Formation, protonation, and decay kinetics of the RSSR- radical

AUTHOR(S): Hoffman, Morton Z.; Hayon, E.

CORPORATE SOURCE: Pioneering Res. Lab., U.S. Army Natick Lab., Natick, MA, USA

SOURCE: Journal of the American Chemical Society (1972), 94(23), 7950-7

CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The rupture of disulfide linkages by the one-electron transfer agents eaq- and H atoms in H_2O was studied using the fast-reaction technique of pulse radiolysis and kinetic absorption spectrophotometry. Dithiodiacetic acid (I), dithiodipropionic acid (II), cystine, cystamine, cystine di-Me ester (III), penicillamine disulfide, glutathione disulfide (IV), and lipoic acid (V) were investigated. The reaction rate consts. of eaq- with these disulfide compds (RSSR) were dependent upon the state of protonation of the amino groups (for the amino acid disulfides), with the rate decreasing on deprotonation of the NH_3^+ groups. The absorption maximum, extinction coeffs., and decay kinetics of the disulfide radical anions, RSSR- , produced on reaction with eaq- were determined. For most compds., the maximum were

in the range 400-20 nm, with extinction coefficients .apprx. $7-15 + 10^3 \text{ M}^{-1} \text{ cm}^{-1}$; the decays followed a 1st-order process, except for lipoate which decayed by 2nd-order kinetics. At $\text{pH} > 7$, the decay rate of the RSSR- radicals of I, II, V, and IV were independent of pH ; all the other disulfides increased in rate with increase in pH . This increase followed the pK_a of the amino groups. At $\text{pH} < 7$, the decay rate increased again; the rate increase was dependent upon $[\text{H}^+]$, and the kinetics of protonation of the disulfide radical anions were measured. Values ranged from $6.0 \pm 1.5 + 10^8$ to $7.0 \pm 1.5 + 10^{10} \text{ M}^{-1} \text{ sec}^{-1}$ for III and IV, resp. The protonation of RSSR- produced the short-lived sulfenium radical which decomposed to form thiyl, $\text{RS}\bullet$, (λ_{maximum} .apprx. 330 nm) and RSH . Thiyl radicals were produced by an independent reaction and the transient spectra observed with λ_{maximum} .apprx. 330 nm were identical with the corresponding radicals formed on protonation of RSSR- radicals. The reaction of H atoms with these disulfides in acidic solns. produced the same intermediates as those observed from the protonation of RSSR- radicals, with absorption maximum at .apprx. 330 nm and low extinction coeffs. indicating a similar rupture of S-S linkages. Decay rates of thiyl

radicals ranging from .apprx.3.4 + 109 to 1.4 + 1010 M-1 sec-1 were determined These results are discussed on the basis of the physicochem. properties of the disulfide linkage. The reaction of the radicals produced from V differed from those of the other disulfides studied.

IT 1069-29-0

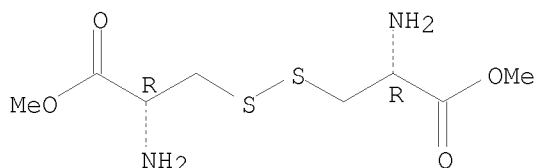
RL: RCT (Reactant); RACT (Reactant or reagent)

(one-electron reduction of, by hydrated electrons, kinetics of)

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 303 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1973:4506 CAPLUS

DOCUMENT NUMBER: 78:4506

ORIGINAL REFERENCE NO.: 78:759a,762a

TITLE: Protection of thiol and phenolic hydroxy-groups as their 4-picolyl ethers, cleaved by electrolytic reduction

AUTHOR(S): Gosden, A.; Stevenson, D.; Young, G. T.

CORPORATE SOURCE: Dyson Perrins Lab., Oxf. Univ., Oxford, UK

SOURCE: Journal of the Chemical Society, Chemical Communications (1972), (20), 1123-4
CODEN: JCCCAT; ISSN: 0022-4936

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The 4-picolyl group (Pic), removable by electrolytic reduction, was used to protect the thiol group of cysteine and the hydroxy group of tyrosine during peptide synthesis. Thus, reduction of L-cysteine with Na in liquid NH3 followed by treatment with PicCl gave 68% Pic-Cys which with BocN3 (Boc = Me3COCO) gave 87% Boc-Cys-Pic (I). Gly-OEt with I and dicyclohexylcarbodiimide followed by hydrolysis with aqueous NaOH gave Boc-Cys(Pic)-Gly which on electrolytic reduction followed by air oxidation gave 75% Gly-Cys-Cys-Gly. Similarly Pic-Tyr was used in the preparation of Tyr-Gly.

IT 7729-20-6P

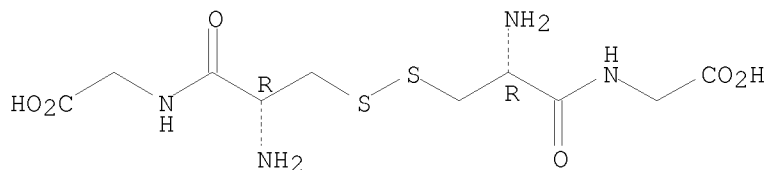
RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1-1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 304 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1972:514857 CAPLUS

DOCUMENT NUMBER: 77:114857

ORIGINAL REFERENCE NO.: 77:18944h,18945a
TITLE: Disulfide stereochemistry. Conformations and
chiroptical properties of L-cystine derivatives
AUTHOR(S): Casey, Jeremiah P.; Martin, R. Bruce
CORPORATE SOURCE: Dep. Chem., Univ. Virginia, Charlottesville, VA, USA
SOURCE: Journal of the American Chemical Society (1972),
94(17), 6141-51
CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal
LANGUAGE: English

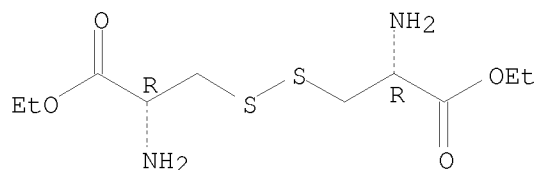
AB Successive N-methylation of L-cystine [L-CySSCy (I)] reverses the relative magnitudes of the vicinal coupling consts. and chemical shifts of the anisochronous methylene hydrogens on passing from di- to tetramethylcystine. These PMR results indicate that the most stable staggered ethanic rotamer with anti sulfur and carboxylate residues for I is succeeded by the rotamer with anti sulfur and methylated ammonium groups. For the same series, the composite CD of the disulfide absorption at >240 nm changes sign from neg. to pos. upon N-methylation, permitting estimation of contributions to optical activity by each rotamer due to perturbation of the disulfide chromophore by the asymmetric centers. Upon passing from water and MeOH to longer chain alc. solvents, the disulfide CD of alkyl ester dihydrochlorides of I also changes sign from neg. to pos., suggesting a similar change in rotamer preference. Acylation and amidation of I produce only minor effects on vicinal coupling consts. and CD, indicating only small influences of these substituents on rotamer distribution. Mixed disulfides such as L-CySSEt yield coupling consts. and CD curves similar to that of I. These results among others indicate no significant restriction on the conformation of I due to endocyclic interactions. The relatively high optical rotatory properties of I and derivs. in solution are due not to endocyclic interactions nor to biasing of screw sense in the disulfide bond but rather to unequal populations of three staggered rotamers. From an examination of (-)-(9S,10S)-trans-hexahydro-2,3-benzodithiin and crystals of I, a neg. long wavelength CD sign is associated with M (left handed) disulfide chirality for dihedral angles <90°. The utility of the long wavelength CD in assigning M disulfide chirality and monitoring conformational changes is demonstrated for the naturally occurring cyclopentapeptide malformin A.

IT 22735-07-5 32854-09-4 38261-78-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(CD of, solvent effects on)

RN 22735-07-5 CAPLUS

CN L-Cystine, diethyl ester, dihydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.

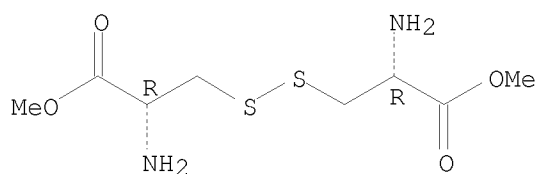


● 2 HCl

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

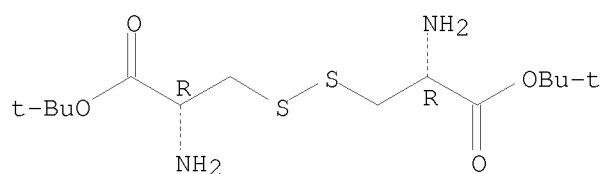
Absolute stereochemistry.



● 2 HCl

RN 38261-78-8 CAPLUS
 CN L-Cystine, 1,1'-bis(1,1-dimethylethyl) ester, hydrochloride (1:2) (CA INDEX NAME)

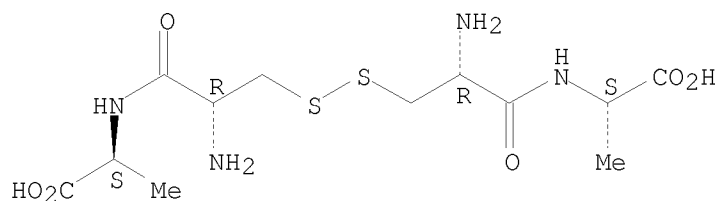
Absolute stereochemistry. Rotation (-).



● 2 HCl

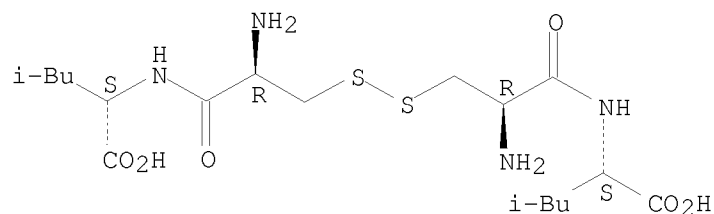
IT 20898-21-9 21141-85-5
 RL: PRP (Properties)
 (conformation of, CD in relation to)
 RN 20898-21-9 CAPLUS
 CN L-Alanine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



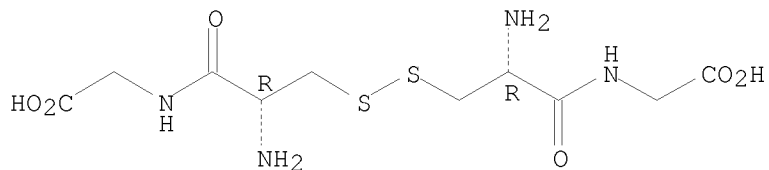
RN 21141-85-5 CAPLUS
 CN L-Leucine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 7729-20-6
 RL: PRP (Properties)
 (conformation of, NMR and CD in relation to)
 RN 7729-20-6 CAPLUS
 CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 305 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1972:502250 CAPLUS
 DOCUMENT NUMBER: 77:102250
 ORIGINAL REFERENCE NO.: 77:16863a,16866a
 TITLE: Tyrosine derivatives
 INVENTOR(S): Ishida, Yukio
 PATENT ASSIGNEE(S): Kowa Co., Ltd.
 SOURCE: Jpn. Tokkyo Koho, 4 pp.
 CODEN: JAXXAD
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

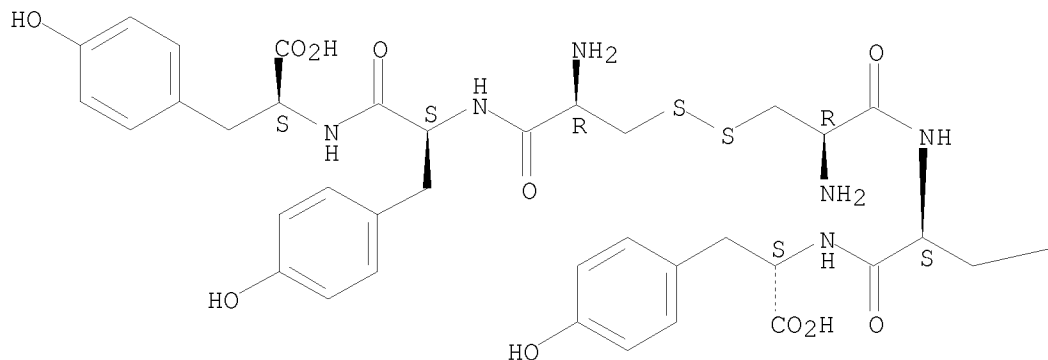
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 47026500	B4	19720717	JP 1967-19970	19670331

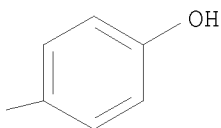
AB The title compds. [SCH2CH-(NHR1)CONHCH(CH2C6H4OH-p)CONHCH(CH2C6H4OH-p)-CO2R2]2 (I) having anti-oxytocin activity were prepared from tyrosyltyrosines. Thus, L-Tyr-L-Tyr-OEt hydrochloride was treated with N,N'-bis(carbobenzyloxy)cystine, NEt3, and di-cyclohexylcarbodiimide in THF-DMF to give 70% I (R1 = PhCH2O2C, R2 = Et) which further treated with HBr-AcOH gave I (R1 = R2 = H). Also prepared was I (R1 = PhCH2O2C, R2 = H).

IT 33508-30-4P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 33508-30-4 CAPLUS
 CN L-Tyrosine, L-cysteinyl-L-tyrosyl-, bimol. (1→1')-disulfide (9CI)
 (CA INDEX NAME)

Absolute stereochemistry.

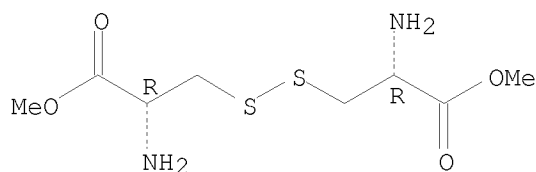
PAGE 1-A





L5 ANSWER 306 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1972:493298 CAPLUS
 DOCUMENT NUMBER: 77:93298
 ORIGINAL REFERENCE NO.: 77:15379a,15382a
 TITLE: Reaction rates of electrons in picosecond pulse radiolysis
 AUTHOR(S): Hayon, E.
 CORPORATE SOURCE: Pioneering Res. Lab., U.S. Army Natric Lab., Natick, MA, USA
 SOURCE: Nature (London), Physical Science (1972), 238(83), 76-7
 CODEN: NPSCA6; ISSN: 0300-8746
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB For reactions of hydrated electrons with the solutes in aqueous solns. determined by radiolysis with μ sec pulses of electrons, the rate consts. were 6.0 ± 109 , 1.6 ± 1010 , 5.1 ± 1010 , 4.2 ± 1010 , and 5.8 ± 108 (mole sec) $^{-1}$ for glycine (pH 1.0), cystine (pH 5.6), cystine dimethyl ester (pH 6.3), cystamine (pH 6.7), and AcOH (pH 2.0), resp. Except for AcOH, the rate consts. were close to those observed (J. E. Aldrich, et al., 1971) in psec-pulse-radiolysis expts. There is no evidence for the existence of the "dry electron" (W. H. Hamill, 1969) in these types of reactions.
 IT 1069-29-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with electrons in aqueous solns., kinetics and mechanism of)
 RN 1069-29-0 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 307 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1972:150199 CAPLUS
 DOCUMENT NUMBER: 76:150199
 ORIGINAL REFERENCE NO.: 76:24443a,24446a
 TITLE: Production of free radicals in proteins by ultraviolet

light
 AUTHOR(S): Androes, G. M.; Gloria, H. R.; Reinisch, R. F.
 CORPORATE SOURCE: Ames Res. Cent., NASA, Moffett Field, CA, USA
 SOURCE: Photochemistry and Photobiology (1972), 15(4), 375-93
 CODEN: PHCBAP; ISSN: 0031-8655
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Several solid proteins and model compds. including α -chymotrypsin, collagen, lysozyme, oxytocin, pepsin, RNase, MeOH-extracted silk, bacterial protease, L-cystinylbis[L-tryptophan] and L-cystinylbis[L-tyrosine], were examined by EPR techniques following uv exposure in vacuum and at low temperature

The relations between free radical formation and various parameters such as wavelength ($\lambda \geq 250$ nm), uv duration and intensity, sample luminescence, amino acid sequence and tertiary structure were studied. Two mechanisms were detected at low temperature. A single proton process occurring when the triplet state of tyrosine or tryptophan (when both these aromatic amino acids were present) was quenched, involved radical formation in or near the chromophore. The process was energy-limited and possibly involved the existence of repulsive states through excimer type interactions. The biphotonic mechanism appeared to predominate at low temps. Radicals formed by this mechanism would lie close to the site of photoelectron formation and may include S-type radicals in an adjacent chain if spatial factors allow.

IT 7369-94-0 36459-22-0

RL: BIOL (Biological study)

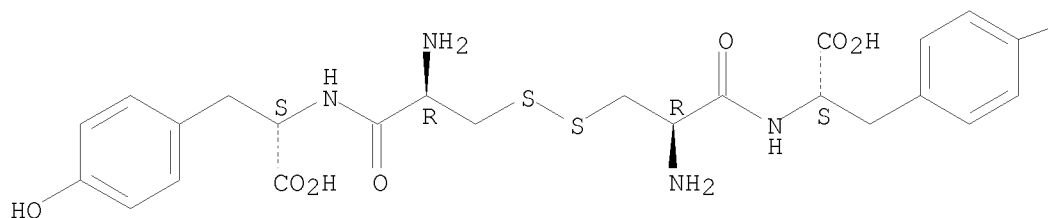
(uv light effect on, radical formation in relation to)

RN 7369-94-0 CAPLUS

CN L-Tyrosine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



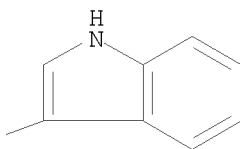
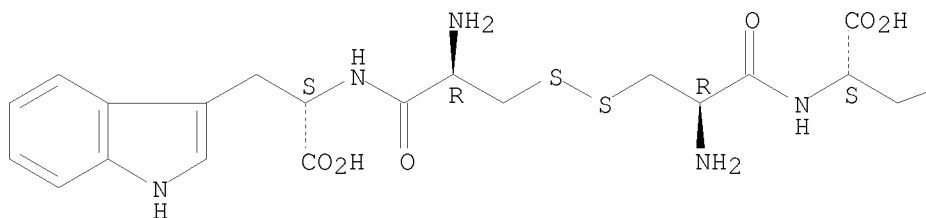
PAGE 1-B

—OH

RN 36459-22-0 CAPLUS

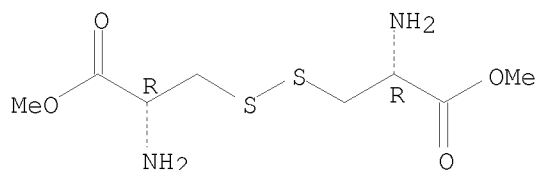
CN L-Tryptophan, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 308 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1972:123765 CAPLUS
 DOCUMENT NUMBER: 76:123765
 ORIGINAL REFERENCE NO.: 76:20041a,20044a
 TITLE: Band-shape analysis and display of fine structure in protein spectra. New approach to perturbation spectroscopy
 AUTHOR(S): Metzler, David E.; Harris, Carol; Yang, In-Yu; Siano, Donald; Thomson, James A.
 CORPORATE SOURCE: Dep. Biochem. Biophys., Iowa State Univ., Ames, IA, USA
 SOURCE: Biochemical and Biophysical Research Communications (1972), 46(4), 1588-97
 CODEN: BBRCA9; ISSN: 0006-291X
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The shape of light absorption bands of proteins down to about 250 nm can be described as the sum of 2 overlapping lognormal distribution curves. A plot of the differences between the math. smooth-fitted curve and the exptl. points provides a vivid display of vibronic fine structure. Band parameters and difference plots are provided for the N-acetyl derivs. of the Et esters of the aromatic amino acids and are compared with those of glucagon, RNase, chymotrypsinogen, lysozyme, and apoaspartate aminotransferase. Changes in band parameters and fine structure are observed upon denaturation and in the conversion of glucagon to fibril form.
 IT 32854-09-4
 RL: PRP (Properties)
 (spectroscopy of, perturbation)
 RN 32854-09-4 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

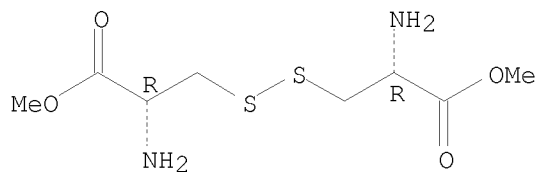
Absolute stereochemistry.



● 2 HCl

L5 ANSWER 309 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1972:72860 CAPLUS
 DOCUMENT NUMBER: 76:72860
 ORIGINAL REFERENCE NO.: 76:11741a,11744a
 TITLE: Polymerization of styrene by cystine
 AUTHOR(S): Tsuda, Kazuichi; Izumi, Nobuyoshi; Akasaka, Takeshi
 CORPORATE SOURCE: Nagoya Inst. Technol., Nagoya, Japan
 SOURCE: Nagoya Kogyo Daigaku Gakuho (1970), 22, 477-82
 CODEN: NADGA8; ISSN: 0369-3171
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The thermal and photodecompn. of cystine (I) [24645-67-8] and added I
 derivs. were studied. I did not decompose to a thiyl radical
 [.SCH₂CH(NH₂⁺)CO₂H] by thermal, photo-, redox-, or photo-sensitizing
 method. However, I was effective as a chain terminator or chain transfer
 agent in the polymerization of styrene [100-42-5]. I dimethyl ester and
 N,N'-diacetylcystine dimethyl ester [32381-28-5] were also effective chain
 transfer agents and terminators.
 IT 1069-29-0
 RL: USES (Uses)
 (chain transfer and termination by, in styrene polymerization)
 RN 1069-29-0 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



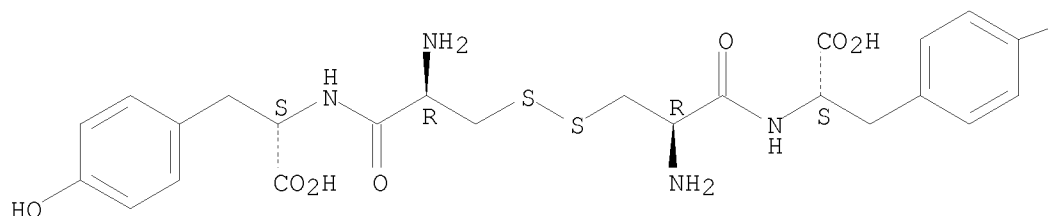
L5 ANSWER 310 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1972:22328 CAPLUS
 DOCUMENT NUMBER: 76:22328
 ORIGINAL REFERENCE NO.: 76:3637a,3640a
 TITLE: Luminescence of ribonuclease A
 AUTHOR(S): Churchich, Jorge, E.; Wampler, John
 CORPORATE SOURCE: Dep. Biochem., Univ. Tennessee, Knoxville, TN, USA
 SOURCE: Biochimica et Biophysica Acta, Protein Structure
 (1971), 243(2), 304-11
 CODEN: BBPTBH; ISSN: 0005-2795
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The effect of SS bonds on the phosphorescence properties of tyrosyl
 residues of model compds. and RNase A was investigated. The tyrosyl
 residues of polytyrosine, insulin heptapeptide, lysine-tyrosine copolymer,

and cysteinyltyrosine are characterized by luminescence ratios (q_P/q_F) which are close to 1. The phosphorescence emission decays in an exponential manner with phosphorescence lifetimes (τ_P) fluctuating between 2.3 and 2.6 sec. The cystinyl-bis-tyrosine peptide exhibits an abnormal behavior in its luminescence properties when compared to free tyrosine. Its luminescence ratio (q_P/q_F) is equal to 0.2 and its decay time ($\tau_P = 0.2$ sec) is shorter than the value of free tyrosine. RNase A is characterized by a luminescence ratio of 0.58 and by a phosphorescence decay time of 1.4 sec. Reductive cleavage of the SS bonds brings about an increase in the phosphorescence yield ($q_P/q_F = 1$) and phosphorescence decay time ($\tau_P = 2.3$ sec). The low phosphorescence yield of RNase A is related to a quenching effect exerted by the SD bonds on the triplet excited state of tyrosyl residues.

IT 7369-94-0
 RL: PRP (Properties)
 (luminescence of)
 RN 7369-94-0 CAPLUS
 CN L-Tyrosine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



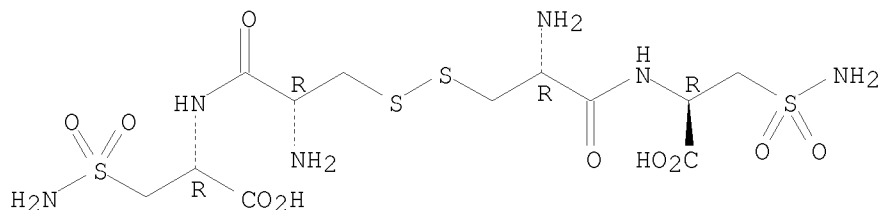
PAGE 1-B

—OH

L5 ANSWER 311 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1971:541157 CAPLUS
 DOCUMENT NUMBER: 75:141157
 ORIGINAL REFERENCE NO.: 75:22281a,22284a
 TITLE: Synthesis of peptides containing
 2-amino-3-sulfamoylpropionic acid by the carbodiimide
 method
 AUTHOR(S): Aleksiev, Boris; Nisanjan, Parunag; Stoev, Stojco;
 Doseva, Veneta
 CORPORATE SOURCE: Deutsches Wollforschungsinstit., Tech. Hochsch. Aachen,
 Aachen, Fed. Rep. Ger.
 SOURCE: Hoppe-Seyler's Zeitschrift fuer Physiologische Chemie
 (1971), 352(10), 1411-16
 CODEN: HSZPAZ; ISSN: 0018-4888
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 OTHER SOURCE(S): CASREACT 75:141157
 AB The carbodiimide method was suitable for the synthesis of peptides that
 contain the sulfonamide of cysteic acid (2-amino-3-sulfamoylpropionic
 acid). A number of di-, tri-, tetra-, and pentapeptides were synthesized
 by condensation of 2-amino-3-sulfamoylpropionic acid, protected at the
 amino or the carboxy group, with the corresponding blocked amino acids and
 peptides. The new compds. were optically active. The yields were 60-80%.

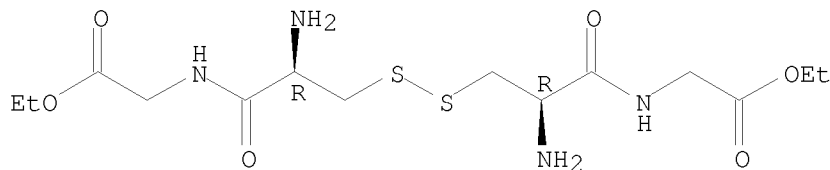
IT 33891-71-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 33891-71-3 CAPLUS
 CN Alanine, N,N'-L-cystylbis[3-sulfamoyl-, L- (8CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 312 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1971:518590 CAPLUS
 DOCUMENT NUMBER: 75:118590
 ORIGINAL REFERENCE NO.: 75:18729a,18732a
 TITLE: Reaction of sulfur-containing aminocarboxylic acids, peptides, and proteins with chlorine. 7. Synthesis of sulfonamide derivatives of glutathione
 AUTHOR(S): Stoev, Stojco; Aleksiev, Boris
 CORPORATE SOURCE: Chem.-Technol. Inst., Sofia, Bulg.
 SOURCE: Pharmazie (1971), 26(8), 473-7
 CODEN: PHARAT; ISSN: 0031-7144
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 OTHER SOURCE(S): CASREACT 75:118590
 AB Stable glutathionesulfonyl chloride is prepared by protecting the amino and carboxyl groups with carbobenzoxy chloride and EtOH, and the sulfonyl chloride is condensed with NH3 and Et esters of glycine and L-leucine to prepare sulfonamides. L-γ-Glutamylsulfamidocysteinylglycine is also prepared from 2-amino-2-carboxyethanesulfonamide by the azide method.
 IT 33642-58-9P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 33642-58-9 CAPLUS
 CN Glycine, L-cysteinyl-, ethyl ester, bimol. (1→1')-disulfide (9CI)
 (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 313 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1971:471556 CAPLUS
 DOCUMENT NUMBER: 75:71556
 ORIGINAL REFERENCE NO.: 75:11293a,11296a
 TITLE: Penicillamine deprotonations and interactions with copper ions
 AUTHOR(S): Wilson, Edmond Woodrow, Jr.; Martin, Robert Bruce

CORPORATE SOURCE: Chem. Dep., Univ. Virginia, Charlottesville, VA, USA
SOURCE: Archives of Biochemistry and Biophysics (1971),
142(2), 445-54
CODEN: ABBIA4; ISSN: 0003-9861
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In aqueous solns. .apprx.5 times as many penicillamine mols. possess ionized SH groups as deprotonated amino groups. The corresponding ratio for cysteine is 2. N-Acetyl-DL-penicillamine and D-penicillamine react with Cu(II), even in acid solns., to yield the corresponding disulfide and Cu(I). Cu(I) binds on the average only 1 SH mol., and a polymeric structure is suggested. A mixed valence state purple species absorbing at 520 nm and stable even in air is formed when approx. equivalent amts. of Cu(I), Cu(II), and D-penicillamine are present in neutral solns. In the absence of O and in the presence of 0.1N base, D-penicillamine forms a 2:1 complex with Cu(II) that is stable for hours. Absorption and CD are reported for the above species and the Cu(I) complexes of L-cystinediamide and L-cystinyldiglycine.

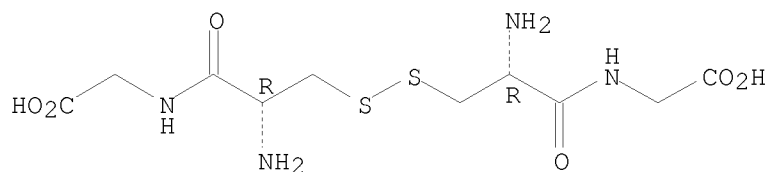
IT 7729-20-6

RL: PRP (Properties)
(spectra of)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1-1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 314 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1971:461763 CAPLUS

DOCUMENT NUMBER: 75:61763

ORIGINAL REFERENCE NO.: 75:9779a,9782a

TITLE: Antagonistic activities of derivatives of
cystinyl-tyrosyl-tyrosine to actions of oxytocin

AUTHOR(S): Ishida, Y.; Onishi, M.; Hiyama, T.; Yabuuchi, Y.

CORPORATE SOURCE: Fac. Pharm. Sci., Tokushima Univ., Tokushima, Japan

SOURCE: Journal of Pharmaceutical Sciences (1971), 60(6),
896-900

CODEN: JPMSAE; ISSN: 0022-3549

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Almost all peptides with both a tyrosyl-tyrosine and a cystine or S-benzylcysteine residue in the mol. (6 peptides of cystinyltyrosyl-tyrosine derivs. and 5 peptides of S-benzylcysteinyltyrosyl-tyrosine derivs.) antagonized the action of oxytocin on isolated rat uterus. The most active peptide was N-dicarbobenzoxy-L-cystinyl-di-(L-tyrosyl-L-tyrosine) with a pA2 of 6.06. The pA2 is the neg. logarithm of the concentration of antagonist causing a specific shift in the dose-response curve. This peptide also showed an inhibition of the responses to oxytocin on rat uterus in situ and on avian blood pressure. N-Carbobenzoxy-S-benzyl-L-cysteinyl-L-tyrosyl-L-tyrosine with pA2 of 5.78 did not inhibit oxytocin in situ.

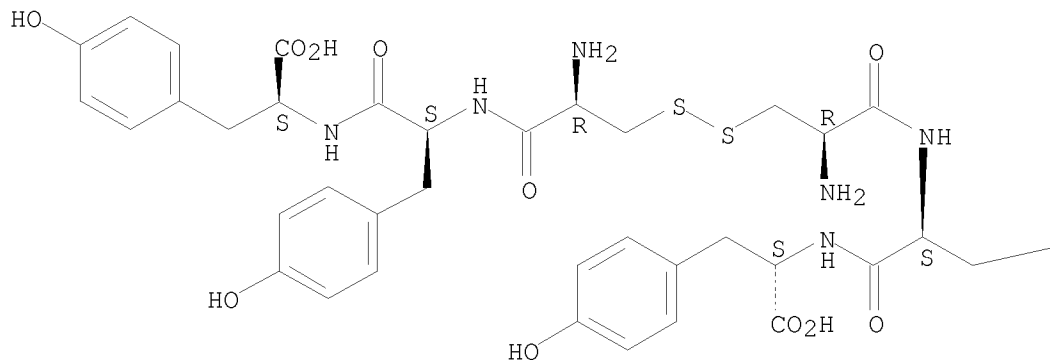
IT 33508-30-4 33508-31-5

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(antioxitocin activity of)

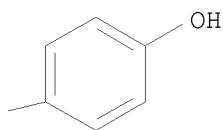
RN 33508-30-4 CAPLUS
CN L-Tyrosine, L-cysteinyl-L-tyrosyl-, bimol. (1→1')-disulfide (9CI)
(CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



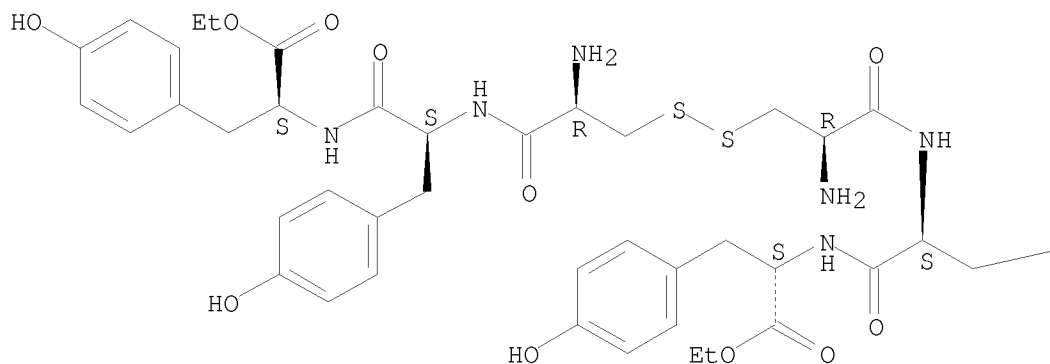
PAGE 1-B

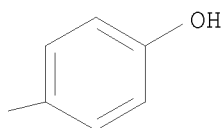


RN 33508-31-5 CAPLUS
CN Tyrosine, N,N'-[L-cystylbis[imino(p-hydroxyphenethylidene)carbonyl]di-,
diethyl ester, L- (8CI) (CA INDEX NAME)

Absolute stereochemistry.

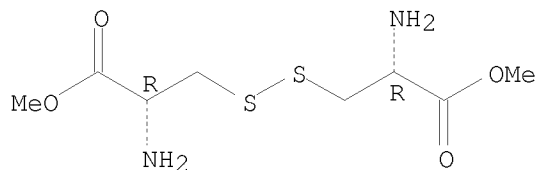
PAGE 1-A





L5 ANSWER 315 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1971:413217 CAPLUS
 DOCUMENT NUMBER: 75:13217
 ORIGINAL REFERENCE NO.: 75:2109a,2112a
 TITLE: Carbon-13 NMR chemical shifts of amino acids and peptides
 AUTHOR(S): Voelter, Wolfgang; Jung, Guenther; Breitmaier, Eberhard; Bayer, Ernst
 CORPORATE SOURCE: Chem. Inst., Univ. Tuebingen, Tuebingen, Fed. Rep. Ger.
 SOURCE: Zeitschrift fuer Naturforschung, Teil B: Anorganische Chemie, Organische Chemie, Biochemie, Biophysik, Biologie (1971), 26(3), 213-22
 CODEN: ZENBAX; ISSN: 0044-3174
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 AB Pulse-Fourier-transform-13C-NMR spectroscopy allowed the direct recording of 13C-NMR spectra of amino acids and peptides with a natural abundance of 13C isotopes within a reasonable time. The 13C signals of more than 50 free and protected amino acids and several peptides were assigned. 13C-NMR spectroscopy gives valuable information about the C skeleton, offering a new anal. tool for the study of biopolymers and their constituents.
 IT 32854-09-4
 RL: PRP (Properties)
 (nuclear magnetic resonance of)
 RN 32854-09-4 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 316 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1971:126033 CAPLUS
 DOCUMENT NUMBER: 74:126033
 ORIGINAL REFERENCE NO.: 74:20367a,20370a
 TITLE: Synthesis of insulin fragments with an intact

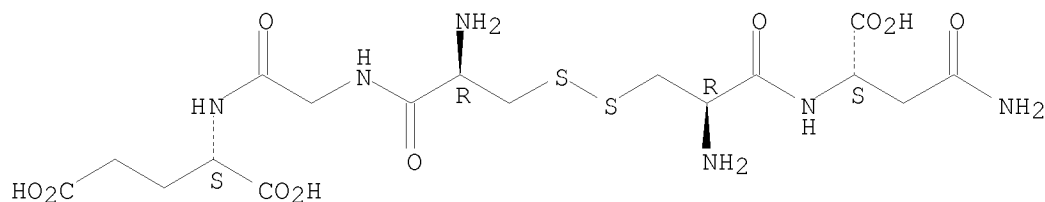
interchain disulfide bridge [between] A20-B19
 AUTHOR(S): Kamber, Bruno
 CORPORATE SOURCE: Chem. Forschungslab., CIBA-Geigy A.-G., Basel, Switz.
 SOURCE: Helvetica Chimica Acta (1971), 54(1), 398-422
 CODEN: HCACAV; ISSN: 0018-019X
 DOCUMENT TYPE: Journal
 LANGUAGE: German

AB Synthesis of 6 insulin fragments is described, in which various sequences of the AB chains are linked by the SS bridge between A20 and B19. Fragments were: A20-21-B19-21, A20-21-B18-19, A20-21-B17-21, A19-21-B19-21, A16-21-B18-21 and A20-21-B12-21. To build up the simpler fragments, the SS bridge was established by oxidation with iodine of 2-S-tritylcysteine peptides, in which the CO₂H and NH₂ groups were protected by the tert-Bu and tert-BuOC(O) residue. From the mixture obtained, the unsym. cystine peptide was separated from the 2 sym. ones by counter-current distribution. In the synthesis of the more complex fragments, smaller unsym. fragments, prepared as above, but having 1 NH₂ group protected by the N-trityl residue, were used. After selective elimination of the protective group it was possible to lengthen the peptide chain at this position. The free peptides were obtained by removal of the protecting group with HCl. The 6 synthetic insulin fragments were not active in stimulating rat adipose tissue to convert glucose-14C to 14CO₂ in vitro.

IT 31952-83-7P 32677-27-3P 32677-28-4P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

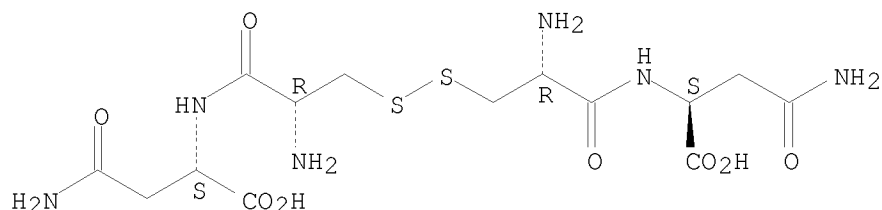
RN 31952-83-7 CAPLUS
 CN Glutamic acid, N-[N-[3-[[2-amino-2-[(2-carbamoyl-1-carboxyethyl)carbamoyl]ethyl]dithio]-L-alanyl]glycyl]- (8CI) (CA INDEX NAME)

Absolute stereochemistry.



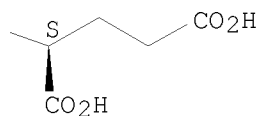
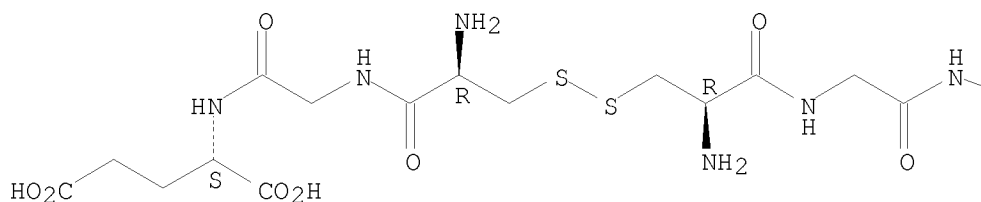
RN 32677-27-3 CAPLUS
 CN L-Asparagine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 32677-28-4 CAPLUS
 CN L-Glutamic acid, L-cysteinylglycyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 317 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1971:3855 CAPLUS

DOCUMENT NUMBER: 74:3855

ORIGINAL REFERENCE NO.: 74:633a,636a

TITLE: Peptides. LXXIX. Merrifield-synthesis of symmetrical cystine peptides

AUTHOR(S): Lunkenheimer, Winfried; Zahn, Helmut

CORPORATE SOURCE: Dtsch. Wollforschungsinstit., Tech. Hochsch. Aachen, Aachen, Fed. Rep. Ger.

SOURCE: Justus Liebigs Annalen der Chemie (1970), 740, 1-17
CODEN: JLACBF; ISSN: 0075-4617

DOCUMENT TYPE: Journal

LANGUAGE: German

AB The problem of S protection in peptide chemistry was circumvented by Merrifield synthesis of sym. cystine peptides. Coupling excess bis(tert-butoxycarbonyl)cystine or its bis(2,4,5-trichlorophenyl) ester with an aminoacyl resin gave resin-bound sym. and mixed disulfides. After reduction with a large excess of PhSH the unreacted cystine halves were washed out. The S-S bridges were regenerated by subsequent oxidation with air in the presence of Fe₂(SO₄)₃ in DMF-CH₂Cl₂ or with a small excess of pyridyl disulfide to give the resin-bound sym. cystine peptide. However, an elongation of this peptide without side reactions was only possible if the cystine residue was separated from the binding site on the resin by more than 1 amino acid residue.

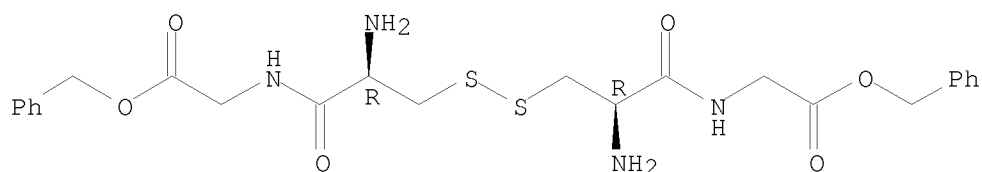
IT 30243-03-9P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 30243-03-9 CAPLUS

CN Glycine, N,N'-L-cystyl-di-, dibenzyl ester, dihydrochloride (8CI) (CA INDEX NAME)

Absolute stereochemistry.



●2 HCl

L5 ANSWER 318 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1970:82916 CAPLUS
 DOCUMENT NUMBER: 72:82916
 ORIGINAL REFERENCE NO.: 72:15115a,15118a
 TITLE: Addition compounds of amino acid esters with higher fatty acids
 INVENTOR(S): Morikawa, Toho
 PATENT ASSIGNEE(S): Shiseido Co., Ltd.
 SOURCE: Jpn. Tokkyo Koho, 3 pp.
 CODEN: JAXXAD
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

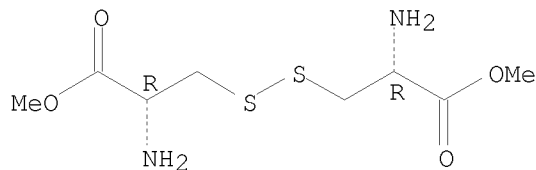
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 45000127	B4	19700106	JP	19621226

AB Palmitic acid (I) (25.6 g) is added to 100 g EtOH containing 26.8 g cystine dimethyl ester (II), the mixture heated at 70°, and kept in a refrigerator to give a white solid, m. 59-63°, which is a mixture of an addition compound of II with I and I. The use of esters of aspartic acid and glutamic acid instead of cystine and the use of stearic acid instead of I are also described. The products are cosmetics and cosmetic bases.

IT 1069-29-0
 RL: BIOL (Biological study)
 (cosmetics)

RN 1069-29-0 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 319 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1970:44094 CAPLUS
 DOCUMENT NUMBER: 72:44094
 ORIGINAL REFERENCE NO.: 72:8127a,8130a
 TITLE: Kinetics of the reaction of imidazolesulphydryl compounds with N-ethylmaleimide
 AUTHOR(S): Schneider, Friedhelm; Wenck, Helmut
 CORPORATE SOURCE: Univ. Tuebingen, Tuebingen, Fed. Rep. Ger.
 SOURCE: Hoppe-Seyler's Zeitschrift fuer Physiologische Chemie

(1969), 350(12), 1521-30
CODEN: HSZPAZ; ISSN: 0018-4888

DOCUMENT TYPE: Journal
LANGUAGE: German

AB The rate of reaction of some derivs. and peptides of cysteine and a number of imidazole-SH compds. with N-ethylmaleimide as well as the dependence of the reaction rate upon pH were investigated; for each compound an equation is given by which the rate consts. and half reaction times can be estimated for various pH values. The pH-dependent term of these equations is related to the pK values of the SH-groups; thus a nucleophilic reaction constant can be calculated which increases with increasing pK value of the SH group. Nucleophilic reaction consts., rate consts., and half reaction times at pH 7 were calculated for the compds. investigated. N-Acetylcysteine reacts much more slowly with N-ethylmaleimide than would be expected on the basis of its pK value, while 4-mercaptomethylimidazole reacts much faster. For these compds. the pK is no criterion of their nucleophilic reactivity with N-ethylmaleimide. The synthesis of N-acetylcysteinamide, cyclo-(Cys-Gly) and 1-methyl-5-(2-mercaptoethyl)imidazole is described.

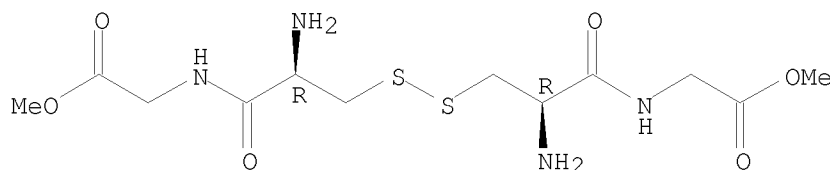
IT 24948-54-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 24948-54-7 CAPLUS

CN Glycine, N,N'-cystylidi-, dimethyl ester, dihydrobromide (8CI) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HBr

L5 ANSWER 320 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1969:106845 CAPLUS

DOCUMENT NUMBER: 70:106845

ORIGINAL REFERENCE NO.: 70:19971a,19974a

TITLE: A nuclear magnetic resonance method for distinguishing α -amino acids from β and γ isomers

AUTHOR(S): Webb, Ronald G.; Haskell, Malcolm W.; Stammer, Charles H.

CORPORATE SOURCE: Univ. of Georgia, Athens, GA, USA

SOURCE: Journal of Organic Chemistry (1969), 34(3), 576-80

CODEN: JOCEAH; ISSN: 0022-3263

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The Me ester hydrochlorides and N-trityl Me esters of 24 amino acids were prepared and their N.M.R. spectra determined. The Me ester peak of each α -N-trityl ester appeared 0.27-0.97 ppm. upfield of the corresponding peak in the untritylated amino ester. Me ester peaks β and γ to the N-trityl function were shifted only 0.03-0.20 ppm. upfield. This difference can be used diagnostically for adjacent amine and ester functions. A discussion of the size of this effect as a function of structure is presented.

IT 22888-38-6

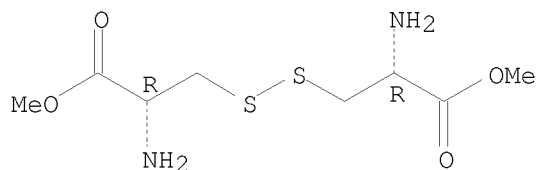
RL: PRP (Properties)

(nuclear magnetic resonance of)

RN 22888-38-6 CAPLUS

CN L-Cystine, dimethyl ester, hydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● x HCl

L5 ANSWER 321 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1969:94492 CAPLUS

DOCUMENT NUMBER: 70:94492

ORIGINAL REFERENCE NO.: 70:17655a,17658a

TITLE: Cause of a hemorrhagic syndrome in rats fed a water-soluble chemically defined diet

AUTHOR(S): Shapiro, Ralph; Rosenthal, Norman A.; Gold, Benjamin K.

CORPORATE SOURCE: Div. of Becton, Dickinson and Co., Orangeberg, NY, USA

SOURCE: Journal of Nutrition (1969), 97(3), 389-98

CODEN: JONUAI; ISSN: 0022-3166

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A hemorrhagic syndrome was observed in male CDF rats fed chemical defined liquid diets containing 2.1 mg. menadione (I)/l. The syndrome occurred without resorting to surgery, coprophagy prevention, chemotherapeutic agents, or antibiotics. It was observed in CDF rats only, although rats of CFE and Fischer strains were also tested. Et cystinate.HCl (II), a water-soluble form of cysteine, was the causative-factor. The incidence and severity of the syndrome were related to its concentration in the diet. The underlying mechanism was the interaction of the free thiol groups of II with I resulting in vitamin K deficiency. Substitution of equimolar amts. of di-Et cystinate.2HCl for II or menadiol Na diphosphate for I, prevented the condition. Addition of 2-methyl-3-cysteiny-1,4-naphthoquinone to the diets of susceptible and resistant rat strains, suggested that it is an inactive form of I rather than an antimetabolite. The severity of hemorrhagenicity was increased slightly by the addition of an oxygenated fat mix to the diet, and markedly by the simultaneous supplementation of vitamins C and E. When equivalent quantities of each vitamin were added alone they were ineffective. Exclusion of vitamin A from the diet did not influence the results.

IT 22735-07-5

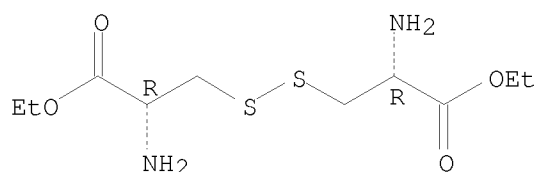
RL: BIOL (Biological study)

(in liquid diets containing menadione)

RN 22735-07-5 CAPLUS

CN L-Cystine, diethyl ester, dihydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

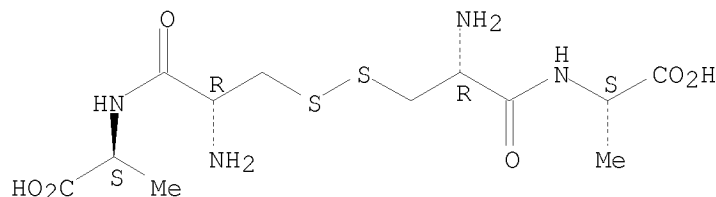
L5 ANSWER 322 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1969:11975 CAPLUS
 DOCUMENT NUMBER: 70:11975
 ORIGINAL REFERENCE NO.: 70:2259a,2262a
 TITLE: Chromatography of some cystine peptides and formation of mixed disulfides
 AUTHOR(S): Richter, James J.; Wainer, Arthur
 CORPORATE SOURCE: Bowman Gray Sch. of Med., Wake Forest Univ., Winston-Salem, NC, USA
 SOURCE: Journal of Chromatography (1968), 37(1), 55-61
 CODEN: JOCRAM; ISSN: 0021-9673
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Peptides containing N-terminal cystinyl residues, viz., L-cystinyl-bis-L-alanine, L-cystinyl-bis-L-valine, and L-cystinyl-bis-L-leucine were separated in an amino acid analyzer by gradient elution from pH 4.50 to 10.5. The very low ninhydrin color yield of these peptides was improved by NaHSO₃ reduction to the sulfhydryl form in the analyzer. Peptides with cystinyl groups in other positions, bis-L-alanyl-L-cysteinyl-L-tyrosine, glycylglycylcystine, and oxidized glutathione, were analyzed from pH 3.10 to 10.5. The N-terminal cystinyl peptides were reduced with dithiothreitol and the excess reagent was removed by ion exchange chromatog. When mixts. of the reduced peptides were allowed to oxidize in air at neutral pH, disulfide formation occurred randomly. Mixed disulfides were obtained in the statistically predicted amount Mixts. of reduced glutathione and (Gly-Cys)₂ or (Ala-Cys-Tyr)₂ underwent thiol-disulfide interchange randomly.

IT 20898-21-9P 20898-22-0P 20898-23-1P
 20898-24-2P 21141-84-4P 21141-85-5P
 RL: FORM (Formation, nonpreparative); PREP (Preparation)
 (formation of, from air oxidation of a mixture of cysteine-containing peptides)

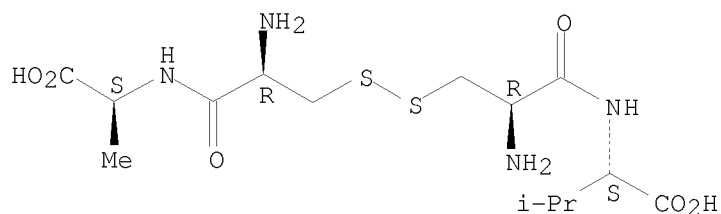
RN 20898-21-9 CAPLUS
 CN L-Alanine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 20898-22-0 CAPLUS
 CN Valine, N-[3-[[2-amino-2-[(1-carboxyethyl)carbamoyl]ethyl]dithio]-L-alanyl]-, L- (8CI) (CA INDEX NAME)

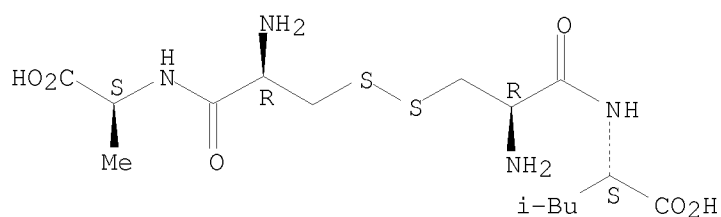
Absolute stereochemistry.



RN 20898-23-1 CAPLUS

CN Leucine, N-[3-[[2-amino-2-[(1-carboxyethyl)carbamoyl]ethyl]dithio]-L-alanyl]-, L- (8CI) (CA INDEX NAME)

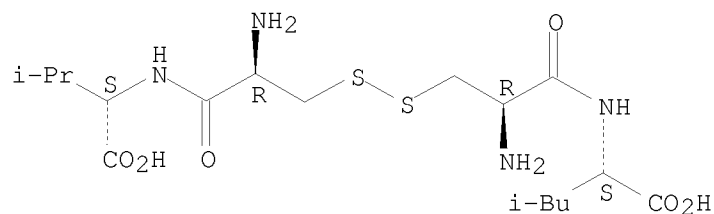
Absolute stereochemistry.



RN 20898-24-2 CAPLUS

CN Leucine, N-[3-[[2-amino-2-[(1-carboxy-2-methylpropyl)carbamoyl]ethyl]dithio]-L-alanyl]-, L- (8CI) (CA INDEX NAME)

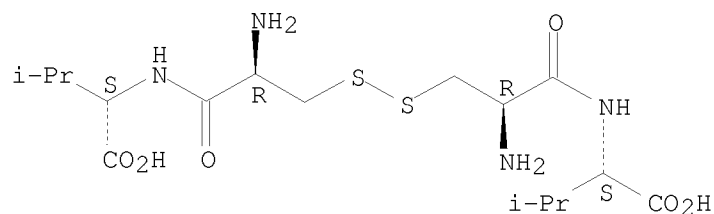
Absolute stereochemistry.



RN 21141-84-4 CAPLUS

CN L-Valine, L-cysteinyl-, bimol. (1->1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

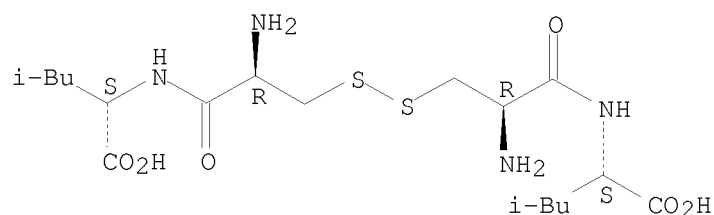


RN 21141-85-5 CAPLUS

CN L-Leucine, L-cysteinyl-, bimol. (1->1')-disulfide (9CI) (CA INDEX NAME)

NAME)

Absolute stereochemistry.



L5 ANSWER 323 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1968:78608 CAPLUS

DOCUMENT NUMBER: 68:78608

ORIGINAL REFERENCE NO.: 68:15191a,15194a

TITLE: Optical activity of the disulfide bond in some cystine-containing cyclic peptides and synthetic polypeptides

AUTHOR(S): Coleman, David L.; Blout, Elkan R.

CORPORATE SOURCE: Harvard Med. School, Boston, MA, USA

SOURCE: Conform. Biopolym., Pap. Int. Symp. (1967), Volume 1, 123-46

CODEN: 19RIAN

DOCUMENT TYPE: Conference

LANGUAGE: English

AB The most significant contributions to the observed O.R.D. and circular dichroism (CD) curves of the title cystine-containing cyclic peptides (I) are associated with a strong transition of the disulfide bond found near 200 mμ and a weaker transition around 260 mμ. Results of an extension of these investigations to disulfide-containing peptides are reported. The rotatory properties of the cyclic disulfide-containing peptides, Arg-vasotocin and 8-L-Orn-vasopressin, are dominated primarily by contributions associated with the disulfide group in which the optical activity of the disulfide transition near 200 mμ is similar in magnitude, sign and position to that observed with the model compound N,N'-diacetyl-L-cystine bis(methylamide). Investigations of the rotatory properties of three high-mol.-weight copolypeptides of L-glutamic acid and L-I are also reported. In only one case was evidence observed of a disulfide contribution at 200 mμ. A suggestion is offered for the failure to observe this transition in these polypeptides. In all of the high-mol.-weight I-containing

polypeptides, a contribution to the CD due to a 260 mμ disulfide transition was observed. The implications of the results of these investigations in assessing the helix contents of proteins by means of O.R.D. are considered.

IT 1069-29-0

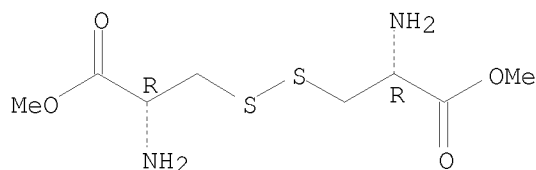
RL: RCT (Reactant); RACT (Reactant or reagent)

(L-glutamic acid peptides terminated by, circular dichroism and O.R.D. of)

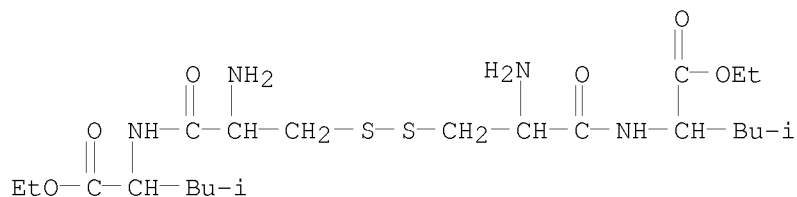
RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 324 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1968:78602 CAPLUS
 DOCUMENT NUMBER: 68:78602
 ORIGINAL REFERENCE NO.: 68:15191a,15194a
 TITLE: Synthetic studies of bacitracin. V. Synthesis of thiazoline peptides from cysteine peptides by a dehydration procedure
 AUTHOR(S): Hirotsu, Yoshihiro; Shiba, Tetsuo; Kaneko, Takeo
 CORPORATE SOURCE: Osaka Univ., Toyonaka, Japan
 SOURCE: Bulletin of the Chemical Society of Japan (1967), 40(12), 2950-4
 CODEN: BCSJA8; ISSN: 0009-2673
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Synthesis of thiazoline peptides from cysteine peptides by dehydration with HCl in non-aqueous solvent was investigated. By this method, Et (R)-2-benzyloxycarbonylaminoethyl-2-thiazoline-4-carboxylate and (R)-2-benzyloxycarbonylaminoethyl-2-thiazoline-4-carboxyl-L-leucine Et ester were prepared and isolated in pure states. This synthetic method could give a promising route to a total synthesis of bacitracin A. However, the cysteine residue in the latter thiazoline peptide ester was easily racemized under the basic conditions.
 IT 17342-86-8P
 RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)
 RN 17342-86-8 CAPLUS
 CN Leucine, N,N'-cystyldi-, diethyl ester, dihydrobromide, L- (8CI) (CA INDEX NAME)



● 2 HBr

L5 ANSWER 325 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1968:46304 CAPLUS
 DOCUMENT NUMBER: 68:46304
 ORIGINAL REFERENCE NO.: 68:8951a,8954a
 TITLE: Relations between polypeptide structure and streptogenic activity. I. Cystine peptides
 AUTHOR(S): Baudet, Pierre; Borecka, Irene; Cherbuliez, Emile
 CORPORATE SOURCE: Univ. Geneva, Geneva, Switz.
 SOURCE: Helvetica Chimica Acta (1968), 51(1), 1-16
 CODEN: HCACAV; ISSN: 0018-019X

DOCUMENT TYPE: Journal
LANGUAGE: French

AB For the characterization of streptogenic substances of known composition the specific activity, i.e., the number of Woolley units/micromole, is proposed. Starting from L-Leu-L-Cys-L-Val-L-Glu (of very high streptogenin activity, 400 Woolley units/mg., 230 Woolley units/micromole) 7 peptides were synthesized by suppression and (or) replacement of amino acid residues. A study of the relation between activity and structure of these peptides shows that: in this group, cystine is an indispensable element for activity; this amino acid must either be linked on each side to leucine residues or linked by its carboxyls to leucine, its amino groups being free. The streptogenin polypeptides may evidently be characterized by an amino acid (in this group of peptides, cystine) which must be linked to particular amino acid residues. If this concept is correct, there should exist several types of streptogenins, depending on the nature of the amino acid essential for their activity. 28 references.

IT 18862-49-2

RL: BIOL (Biological study)

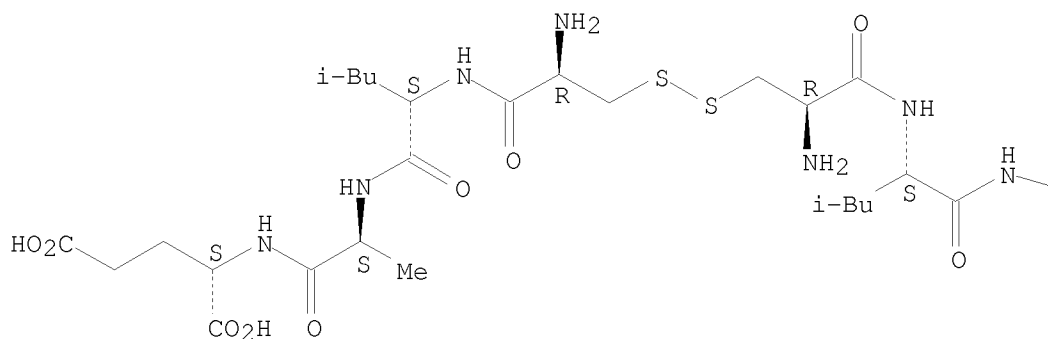
(as animal growth substance, structure in relation to activity of)

RN 18862-49-2 CAPLUS

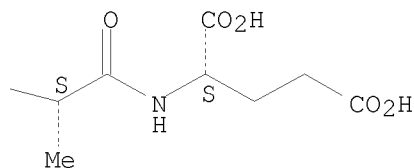
CN L-Glutamic acid, L-cysteinyl-L-leucyl-L-alanyl-, bimol.
(1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



L5 ANSWER 326 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1968:30016 CAPLUS
DOCUMENT NUMBER: 68:30016
ORIGINAL REFERENCE NO.: 68:5855a, 5858a
TITLE: Synthesis and biological activity of
glycolyl3-glutathione
AUTHOR(S): Shchukina, L. A.; Zhuze, A. L.
CORPORATE SOURCE: Inst. Khim. Prirod. Soed., Moscow, USSR

SOURCE: Zhurnal Obshchei Khimii (1967), 37(9), 1980-7
CODEN: ZOKHA4; ISSN: 0044-460X

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB The dipsipeptide analog (I) of glutathione was prepared and had lower biol. activity relative to glutathione in the system with glyoxalase I or comparable to glutathione in the system with CH₂O and NAD-oxidoreductase; more active than glutathione in a system with CH₂O and NAD-oxidoreductase was the previously reported HO₂CCH(NH₂)CH₂CH₂CONHCHEtCO₂CH₂CO₂H. Heating p-O₂NC₆H₄CH₂OH with BrCH₂CO₂H in C₆H₆ in the presence of p-MeC₆H₄SO₃H with removal of H₂O 0.5 hr. gave the corresponding ester (II) m. 49-50°; similarly was prepared 79% BrCH₂CO₂Ph, b₈ 137-8°, n₁₈D 1.5456. Keeping BrCH₂CO₂H in CH₂Cl₂ saturated with Me₂C:CH₂ in the presence of concentrated H₂SO₄ 4 days gave 76% BrCH₂CO₂CMe₃ (III), b₁₂ 59-61°, n₂₀D 1.4458. Heating 9.52 g. dicarbobenzoxy-L-cystine with 12.32 g. II in EtOAc in the presence of Et₃N 4 hrs. gave after an aqueous treatment 93% di-p-nitrobenzyl dicarbobenzoxy-L-cystinyldiglycolate (IIa), m. 113-15°, [α]₂₁D -48°; similarly was prepared 75% the di-tert-butyl ester (IV), m. 126.5-8°, [α]₂₁D -153°. Reaction of di-p-nitrobenzyloxy-L-cystine with III similarly gave 76% di-tert-butyl di-p-nitrocarbobenzoxy-L-cystinyldiglycolate, m. 120.5-3.5°, [α]₂₁D -134°; similarly were prepared: 50% di-tert-butyl diphthaloyl-L-cystinyldiglycolate, m. 143-6°, [α]₂₁D -194°; 84% dibenzyl dicarbobenzoxy-L-cystinyldiglycolate, m. 103-5°, [α]₂₁D -63°. IV kept with 36% HBr in AcOH 0.5 hr. gave di-HBr salt of the free acid, which with LiOH gave 95.5% L-cystinyldiglycolic acid decomposing 141°, [α]₂₁D -120°. IIa treated with HBr in AcOH 1 hr. gave 100% di-p-nitrobenzyl L-cystinyldiglycolate-2HBr (V), m. 136-9°. Keeping α-tert-butyl γ-benzyl carbobenzoxy-L-glutamate in NaOH-aqueous Me₂CO 2 hrs. gave 80% α-tert-butyl carbobenzoxy-L-glutamate (VI), m. 78-80°, [α]₂₁D -25°. V suspended in tetrahydrofuran and treated slowly with Et₃N, followed by VI neutralized with Et₃N, then at -10° with iso-BuO₂CCl, gave after 3 hrs. at room temperature and an aqueous treatment, 77% di-p-nitrobenzyl di-(α-tert-butyl ester of carbobenzoxy-γ-L-glutamyl)-L-cystinyldiglycolate, m. 100-1°, [α]₂₁D -76°, which with 36% HBr in AcOH 0.5 hr. gave di-p-nitrobenzyl (di-γ-L-glutamyl-L-cystinyl)diglycolate-2HBr, precipitated by addition of dry Et₂O. This neutralized with LiOH to 56% free ester, decomposing 152-4°, [α]₂₁D -26°. Hydrogenation over Pd-C gave 78% di-γ-L-glutamyl-L-cystinyldiglycolic acid, a solid, [α]₂₁D -94°, which hydrogenated further over Pd black in H₂O to γ-L-glutamyl-L-cysteinylglycolic acid, a colorless solid, after purification though Hg salts and removal of Hg with H₂S. The product (I), HO₂CCH(NH₂)CH₂CH₂CONHCH(CH₂SH)CO₂CH₂CO₂H, decomposing 160-70°, [α]₂₁D -33°, contained about 80% SH groups by assay with iodine-Na₂S₂O₃ titration. Carbobenzoxy-L-α-aminobutyric acid and III heated in EtOAc in the presence of Et₃N 4 hrs., then treated with 36% HBr in AcOH, gave 84% L-α-aminobutyrylglycolic acid-HBr, m. 133-4°, which adjusted to pH 5 with LiOH and diluted with Me₂CO gave an oil, which reprecipitated similarly from H₂O gave 75% L-α-aminobutyrylglycolic acid, m. 147.5-50°, [α]₂₁D 20°. Crude ophthalmic acid, m. 178-80°, purified via the Cu salt, gave the pure product HO₂CCH(NH₂)CH₂CH₂CONHCHEtCONHCH₂CO₂H, decomposing 185-6°, [α]₂₀D -27°.

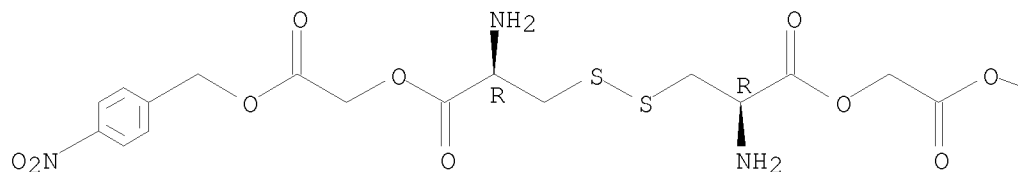
IT 2830-16-2P 16869-31-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 2830-16-2 CAPLUS

CN Cystine, diester with p-nitrobenzyl glycolate, dihydrobromide, L- (8CI)
(CA INDEX NAME)

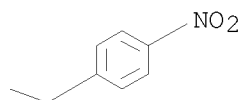
Absolute stereochemistry.

PAGE 1-A



● 2 HBr

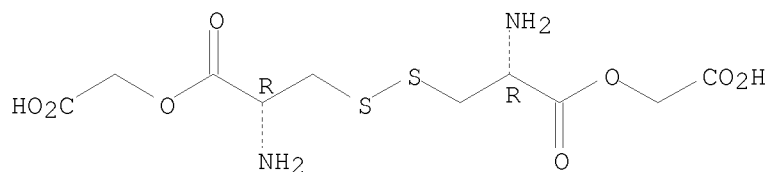
PAGE 1-B



RN 16869-31-1 CAPLUS

CN Cystine, diester with glycolic acid, L- (8CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 327 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1968:13379 CAPLUS

DOCUMENT NUMBER: 68:13379

ORIGINAL REFERENCE NO.: 68:2591a,2594a

TITLE: Synthesis of streptogenic polypeptides

AUTHOR(S): Marzona, Mario; Valentini, R.; Giobbio, V.

CORPORATE SOURCE: Inst. Rich. Turin, Turin, Italy

SOURCE: Farmaco, Edizione Scientifica (1966), 21(10), 704-12

CODEN: FRPSAX; ISSN: 0430-0920

DOCUMENT TYPE: Journal

LANGUAGE: Italian

GI For diagram(s), see printed CA Issue.

AB A synthesis is described of the bispentapeptide (Ia) and the tripeptide L-Ser-Gly-L-Glu. Both peptides were obtained by progressive synthesis starting from the C terminal amino acid. The carbobenzoxy (Z) group was used as an NH₂ protector. Z-L-Val-L-Glu(OEt)-OEt, m. 117°, [α]_{25D} -7.3 (2% HCONMe₂), was prepared via the p-nitrophenyl ester (ONp = p-OC₆H₄NO₂-o) and via dicyclohexylcarbodiimide (DCCI). An 80% yield was obtained by the treatment of 23.79 g. L-Glu(OEt)-OEt(Ib).HCl dissolved in 120 ml. anhydrous CHCl₃ with 10.1 g. Et₃N and 37.2 g. Z-L-Val-ONp. An 82% yield was obtained by the treatment of 25.1 g. Z-L-valine dissolved in 160 ml. CHCl₃ with 24 g. Ib, 11.2 g. Et₃N and 20.6 g. DCCI dissolved in 30 ml. CHCl₃. L-Val-L-Glu(OEt)-OEt(Ic).HBr was prepared by stirring a solution containing 21.8 g. Ic and 75 ml. 2N HBr in AcOH for

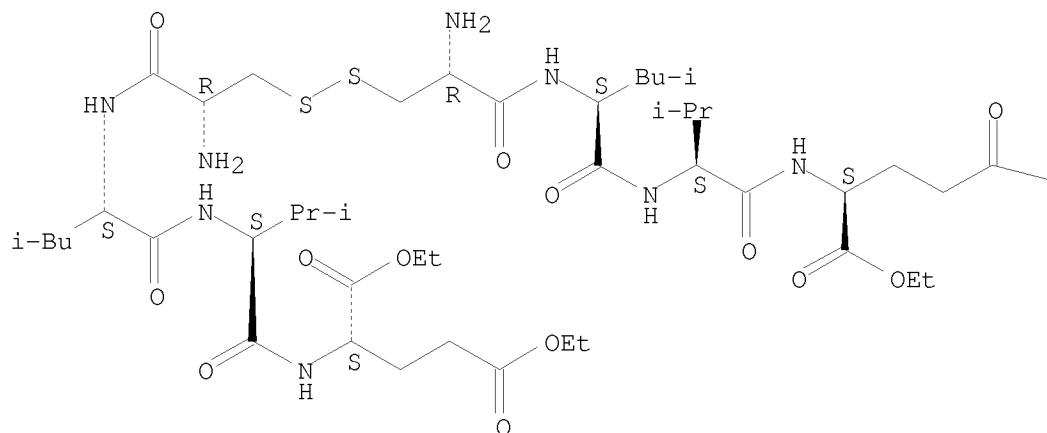
30 min. at 40-5°, and this was then used to prepare 65% Z-L-Leu-L-Val-L-Glu-(OEt)-OEt (I), m. 175-7°, $[\alpha]_{20D} -43^\circ$ (3% AcOH) by dissolving 19.1 g. of the mixt in 250 ml. anhydrous CHCl₃ and adding 10 g. Et₃N. The solution was filtered and 19.3 g. Z-L-Leu-ONp was added to give the product. L-Leu-L-Val-L-Glu(OEt)-OEt (II).HCl (m. 236-8°, 97%) was prepared by bubbling H through 1 l. N HCl in absolute EtOH containing 27.4 g. I and 2 g. 10% Pd/C, the solution was kept at 30-40° with stirring for 4 hrs. II.HBr, 87.7%, m. 217-18°, $[\alpha]_{25D} -25.5$ (2% EtOH), was prepared by dissolving 54.9 g. I in 150 ml. 2N HBr in AcOH and stirring for 30 min. at 45°. III, m. 219-20°, $[\alpha]_{25D} -37.5$ (2% AcOH), was prepared by adding 3.75 g. IIIa to a solution obtained by suspending 4.45 g. II.HCl in 60 ml. anhydrous CHCl₃ and adding 1 g. Et₃N with stirring. IV.HBr, m. 247-8.5°, was prepared in 95% yield by dissolving 13.02 g. III in a 33-ml. solution of 2N HBr in AcOH with stirring for 2 hrs. at 30°. IVa, m. 195-7°, $[\alpha]_{25D} -31$ (2% AcOH), was prepared by dissolving 11.9 g. IV.HBr and 3 g. Et₃N in 110 ml. HCONMe₂; after mixing, 8.1 g. Z-L-leucine-ONp was added and the mixture was allowed to stand 3 days. A precipitate was obtained with 250 ml. N NH₄OH. The hydrobromide (1.12 g.), m. 185-6°, $[\alpha]_{20D} -25^\circ$ (2% AcOH), was prepared by mixing 1.5 g. with 3.5 ml. 2N HBr in AcOH and shaking for 2 hrs. at 30°. Ia (1.08 g.), m. 195.5-7.5°, $[\alpha]_{20D} -22.5$ (2% AcOH), was prepared by dissolving 1.4 g. of the Z derivative in 2.3 ml. 2N HBr in AcOH and maintained at 30° for 1 hr. The tripeptide was prepared as follows. Z-Gly-L-Glu-(OEt)-OEt was prepared (Helferich, et al., CA 54: 13013g) and 3.94 g. was dissolved in 25 ml. 2N HBr in AcOH and mixed for 1 hr. at 30-40° to yield 3.2 g. of the HBr salt, m. 108.3-9.5°. Z-L-Ser-Gly-L-Glu(OEt)-OEt(V), (3.05 g.), m. 105.5, $[\alpha]_{25D} -15.8$ (2.5% EtOH), was prepared by dissolving 3.41 g. Gly-L-Glu(OEt)-OEt.HBr in 50 ml. anhydrous CHCl₃ with the addn of 1.1 g. HCONMe₂ and 4.05 g. Z-L-serine 2,4-dinitrophenyl ester and kept 3 days at 40°. Z-L-Ser-Gly-L-Glu-OEt (2.26 g.) was prepared from 4.81 g. of the di-ethyl ester dissolved in 50 ml. MeOH with the addition of 3 23.5 ml.-portions of N NaOH at intervals of 10 min. and the pH was adjusted to 4 with HCl. L-Ser-Gly-L-Glu(OEt)-OEt.HOAc (3.25 g.), $[\alpha]_{25D} -13.7$ (2% EtOH), was prepared by dissolving 4.81 g. V in 120 ml. MeOH with the addition of 0.6 g. AcOH and 0.65 g. palladium oxide and H was bubbled through the solution for 5 hrs. at 35°.

IT 16675-88-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

RN 16675-88-0 CAPLUS

CN L-Glutamic acid, L-cysteinyl-L-leucyl-L-valyl-, diethyl ester, bimol.
 (1→1')-disulfide, dihydrobromide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HBr

— OEt

L5 ANSWER 328 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1967:417848 CAPLUS

DOCUMENT NUMBER: 67:17848

ORIGINAL REFERENCE NO.: 67:3371a

TITLE: Fluorescence and protein structure. XI. Fluorescence quenching by disulfide and sulfhydryl groups

AUTHOR(S): Cowgill, Robert W.

CORPORATE SOURCE: Bowman Gray Sch. of Med., Wake Forest Coll., Winston-Salem, NC, USA

SOURCE: Biochimica et Biophysica Acta, Protein Structure (1967), 140(1), 37-44

CODEN: BBPTBH; ISSN: 0005-2795

DOCUMENT TYPE: Journal

LANGUAGE: English

AB cf. CA 66: 52262u. Compds. were synthesized as models for quenching of tryptophan and tyrosine fluorescence in proteins. Bis-indole-3-methylene disulfide, bis-4-methoxybenzyl disulfide, and their corresponding reduced, SH derivs. were of extremely low fluorescence. The loss of fluorescence is ascribed to internal quenching by the SS and SH groups. Similar results were obtained for L-cystinyl-bis-L-tyrosine, HOOC(CH₂)₂S-S-CyS-Tyr, ribonuclease-(SCH₂CH₂COOH)₈, and their reduced or carboxymethylated products. That is, the SS group strongly quenched the fluorescence; the reduced SH group quenched less. The mechanism of quenching has not been established but several of the common pathways were rejected. The most probable mechanism seems to be an extremely

short-range interaction between the aromatic ring and the S atoms, which facilitates a vibrational dissipation of the excitation energy. 18 references.

IT 7369-94-0

RL: PRP (Properties)

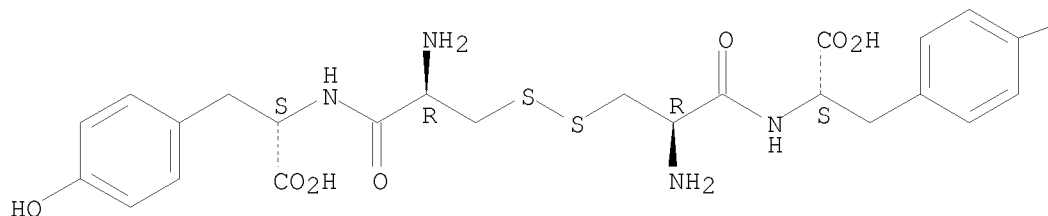
(fluorescence of, disulfide group in quenching of)

RN 7369-94-0 CAPLUS

CN L-Tyrosine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

—OH

L5 ANSWER 329 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1967:61998 CAPLUS

DOCUMENT NUMBER: 66:61998

ORIGINAL REFERENCE NO.: 66:11631a,11634a

TITLE: Interaction of cystamine and cystamine derivatives with nucleic acids and nucleoproteins

AUTHOR(S): Jellum, Egil

CORPORATE SOURCE: Univ. Oslo, Oslo, Norway

SOURCE: International Journal of Radiation Biology and Related Studies in Physics, Chemistry and Medicine (1965), 9(2), 185-200

CODEN: IJRBA3; ISSN: 0020-7616

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The disulfides, cystamine, bis(2-guanidinoethyl) disulfide (GED), dimethylcystamine, tetramethylcystamine, tetraethylcystamine, cystine di-Me ester, and cystine di-Et ester, interacted with and became reversibly bound to calf thymus DNA, Escherichia coli RNA, and to calf-thymus and rat-liver nucleoproteins. The interaction with the free nucleic acids resulted in a greatly enhanced thermal stability (elevated transition midpoints) of the DNA and RNA, and the reaction with the nucleoproteins resulted in a precipitation of these macromols. The disulfides which stabilized the nucleic acids and precipitated the nucleoproteins were typical diamines. Their association with the nucleic acids and nucleoproteins proved to be analogous to the interaction of cadaverine and spermidine with DNA. Thiols and disulfides which did not behave as di-cations had consequently no effect. The affinity of nucleic acids for diamino disulfides may be of consequence in the toxicity of these compds., and possibly of importance in the radioprotective activity of certain thiols and disulfides.

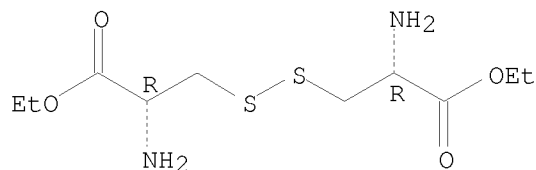
IT 583-89-1 1069-29-0

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction with nucleic acids and nucleoproteins)

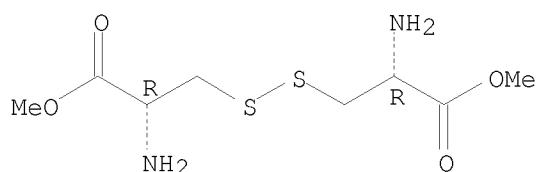
RN 583-89-1 CAPLUS
CN L-Cystine, 1,1'-diethyl ester (CA INDEX NAME)

Absolute stereochemistry.



RN 1069-29-0 CAPLUS
CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 330 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1966:475008 CAPLUS

DOCUMENT NUMBER: 65:75008

ORIGINAL REFERENCE NO.: 65:14043f-h

TITLE: Effects of two kinds of oxytocin antagonists on the isolated rat uterus

AUTHOR(S): Ishida, Yukio; Moritoki, Hideki; Onishi, Michiko

CORPORATE SOURCE: Univ. Tokushima, Japan

SOURCE: Chemical & Pharmaceutical Bulletin (1966), 14(7), 748-52

CODEN: CPBTAL; ISSN: 0009-2363

DOCUMENT TYPE: Journal

LANGUAGE: English

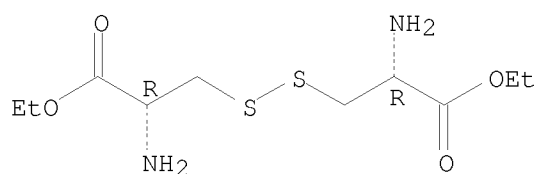
AB Cystine di-Et ester (I), L-tyrosyl-L-tyrosine Et ester, carbobenzyloxy-L-tyrosyl-L-tyrosine Et ester (II), carbobenzyloxy-L-tyrosyl-L-carboxylic acid, diethylstilbestrol, estradiol, p-nitrophenol, and thioglycolate competitively inhibited the effect of oxytocin (III) on the isolated rat uterus and showed pA2 values [neg. log of the affinity of the competitive antagonist; Schild, CA 44, 751b] of 4.08, 3.96, 5.38, 3.64, 5.68, 4.55, 3.89, and 2, resp. The antagonists may be divided into 2 groups, the 1st (including peptides containing tyrosine, and estrogens) has a phenol group, and the 2nd (including I and thioglycolate) may be concerned with the -S-S- group of III. The synergistic antagonism of both groups was examined in combination. The synergistic action of II plus I and of estradiol plus I against III was synergistic, while that of II plus estradiol was additive. There are probably 2 active centers of III concerned with its contractile effect on the uterus; the 1st, which is the active center of oxytocic action, may be a -S-S-bond in the III molecule, while the 2nd, which is a binding site promoting and characterizing oxytocic activities, may be the tyrosine residue of III.

IT 583-89-1, Cystine, diethyl ester
(as oxytocin antagonist and its synergism with
carbobenzyloxy-L-tyrosyl-L-tyrosine Et ester or estradiol)

RN 583-89-1 CAPLUS

CN L-Cystine, 1,1'-diethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 331 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1966:432796 CAPLUS

DOCUMENT NUMBER: 65:32796

ORIGINAL REFERENCE NO.: 65:6122a-d

TITLE: Pharmacological properties of 5-methoxytryptamine peptide derivatives

AUTHOR(S): Mashkovskii, M. D.; Polezheva, A. I.

CORPORATE SOURCE: S. Ordzhonikidze All-Union Sci.-Res. Chem. Pharm. Inst., Moscow

SOURCE: Farmakologiya i Toksikologiya (Moscow) (1966), 29(2), 142-8

CODEN: FATAO; ISSN: 0014-8318

DOCUMENT TYPE: Journal

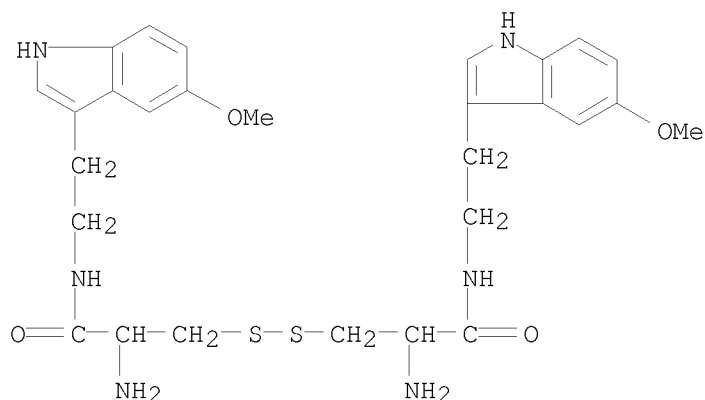
LANGUAGE: Russian

AB The effect of 12 derivs. of 5-methoxytryptamine peptide with amino acid residues substituted at the N atom side chain (glycyl; L-alanyl; β -alanyl; L- α -aminobutyryl; γ -aminobutyryl; L-valyl; N-glycylglycyl; L-arginyl; L- α -glutaminyll; L- γ -glutaminyll; cystyl-N,N-bis; and N-methionyl) on the smooth muscles, diuresis, circulation and respiration, somnifacient action of hexenal, motor excitation, and hyperthermia induced by phenamine was studied. The toxicity and general effect of the prepns. on the animal organism were also determined. The effect of the prepns. on the smooth muscles was studied on isolated organs (the horn of the uterus of rats and the ear vessels of a rabbit) and on whole animals (bronchial muscles and the size of the spleen) with 5-methoxytryptamine as the unit. The introduction of amino acid residues into the mol. of 5-methoxytryptamine produced derivs. having a reduced effect on the smooth muscles. The effect of the prepns. on diuresis was studied in male rats. Most of them produced an antidiuretic effect somewhat less pronounced than that of 5-methoxytryptamine, with L- α -aminobutyryl derivative being the most active of the prepns. The effect of the substances on circulation and respiration was determined by the injection of the prepns. in doses of 1-10 mg./kg. into the vena femoralis of anesthetized cats. The modifications in circulation and respiration were of an unstable nature. To determine the effect of the prepns. on the somnifacient action of hexenal, the substances were subcutaneously administered to rats in doses of 25 and 50 mg./kg. 15 min. prior to the intravenous injections of hexenal in a dose of 50 mg./kg. L-Alanyl and L- α -glutaminyll derivs. prolonged the somnifacient action of hexenal; the remainder of the prepns. had no effect on the action of the drug. L-Alanyl, L- α -aminobutyryl, L-valyl, L- α -glutaminyll, and N-methionyl derivs. administered to mice in doses of 50 and 100 mg./kg. alleviated hyperthermia induced by phenamine. The prepns. also diminished excitation elicited by phenamine. The L.D.₅₀ of the prepns. varies from 15 to 470 mg./kg.

IT 96867-73-1, Propionamide, 3,3'-dithiobis[2-amino-N-[2-(5-methoxyindol-3-yl)ethyl]-, trihydrobromide
(pharmacology of)

RN 96867-73-1 CAPLUS

CN Propionamide, 3,3'-dithiobis[2-amino-N-[2-(5-methoxyindol-3-yl)ethyl]-, trihydrobromide (7CI) (CA INDEX NAME)



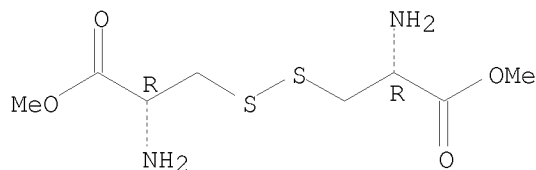
● 3 HBr

L5 ANSWER 332 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1966:421086 CAPLUS
 DOCUMENT NUMBER: 65:21086
 ORIGINAL REFERENCE NO.: 65:3954c-d
 TITLE: Comparative studies on esterification of amino acids
 by different techniques
 AUTHOR(S): Reiss, D.; Tayeau, F.
 CORPORATE SOURCE: Fac. Med. Pharm., Bordeaux, Fr.
 SOURCE: Bulletin de la Societe de Pharmacie de Bordeaux
 (1963), 102(4), 259-72
 CODEN: BSPBAD; ISSN: 0037-9093
 DOCUMENT TYPE: Journal
 LANGUAGE: French

AB Using 0.1-0.5N MeOH solution of HCl at - 15°, Me esters of the
 following amino acids were prepared: glycine, sarcosine, glutamic acid,
 asparagine, ornithine, lysine, serine, cysteine, cystine, phenylalanine,
 histidine, proline, tyrosine, and tryptophan. The same Me esters were
 prepared using Amberlite IR 120 (I) which had been treated with 4 vols. 2N
 HCl 20-30 min., washed, and dried. The amino acid and I were mixed 1:10
 with 30 mL. anhydrous MeOH/g. amino acid and boiled 2-3 h. When 20 mL. CH₂N₂
 in anhydrous Et₂O was added/100 mg. amino acid, only the mono- and di-Me
 esters of the glutamic and aspartic acids and the monomethyl ester of
 cysteine were formed.

IT 1069-29-0
 (Derived from data in the 7th Collective Formula Index (1962-1966))
 RN 1069-29-0 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



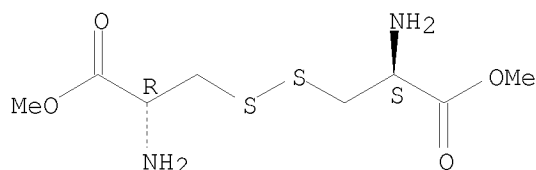
IT 5027-64-5P, Cystine, dimethyl ester, meso-
 RL: PREP (Preparation)

(preparation of)

RN 5027-64-5 CAPLUS

CN meso-Cystine, dimethyl ester (9CI) (CA INDEX NAME)

Relative stereochemistry.



L5 ANSWER 333 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1966:421085 CAPLUS

DOCUMENT NUMBER: 65:21085

ORIGINAL REFERENCE NO.: 65:3953h,3954a-c

TITLE: Pyrimidines. VII. Condensation of ethyl 3,4,5-trimethoxybenzimidate with β -amino acids

AUTHOR(S): Fel'dman, I. Kh.; Boksiner, E. I.

CORPORATE SOURCE: Chem. Pharm. Inst., Leningrad

SOURCE: Sintez Prirodn. Soedin., ikh Analogov i Fragmentov, Akad. Nauk SSSR, Otd. Obshch. i Tekhn. Khim. (1965) 268-72

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB cf. preceding abstract The reaction of Et 3,4,5-trimethoxybenzimidate (I) with β -amino acids (II) may yield either the corresponding 3,4,5-trimethoxyphenylamidino derivs. (III) of carboxylic acids or their cyclization derivs. of 4-hydroxy-1,6-dihydropyrimidine (IV). III are prepared by boiling I and II in MeOH 2 hrs.; I and II refluxed in AmOH 2 hrs. gives IV. By the action of gaseous HCl in EtOH on III the corresponding Et ester-HCl is formed which may be converted into IV with KOH. β -Alanine (V), DL- β -propyl- β -alanine (VI), DL- β -phenyl- β -alanine (VII), and DL- β -p-methoxyphenyl- β -alanine (VIII) were used as II to give the following compds. (m.p. and % yield given): N-(3,4,5-trimethoxybenzimidoyl)- β -alanine (from I and V), 197-9°, 72, ethyl ester-HCl, m. 168-9°, 90, both yielding 2-(3,4,5-trimethoxyphenyl)-4-hydroxy-1,6-dihydropyrimidine, 155-7°, 41; N-(3,4,5-trimethoxybenzimidoyl)-DL- β -propyl- β -alanine (from I and VI), 151-2°, 68, yielding 2-(3,4,5-trimethoxyphenyl)-4-hydroxy-6-propyl-1,6-dihydropyrimidine, 171-3°, 44; N-(3,4,5-trimethoxybenzimidoyl)-DL- β -phenyl- β -alanine (from I and VII), 202-4°, 28%, ethyl ester-HCl, 181-4°, 92, both yielding 2-(3,4,5-trimethoxyphenyl)-4-hydroxy-6-phenyl-1,6-dihydropyrimidine, 174-5°, 58; N-(3,4,5-trimethoxybenzimidoyl)-DL- β -p-methoxyphenyl- β -alanine (from I and VIII), 215-17°, yielding 2-(3,4,5-trimethoxyphenyl)-4-hydroxy-6-(p-methoxyphenyl)-1,6-dihydropyrimidine, 190-2°, 36.

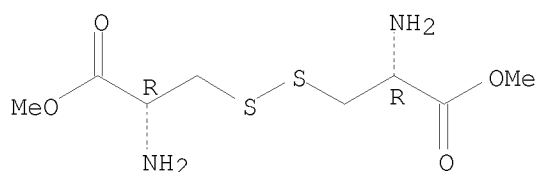
IT 1069-29-0

(Derived from data in the 7th Collective Formula Index (1962-1966))

RN 1069-29-0 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 334 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1966:106295 CAPLUS

DOCUMENT NUMBER: 64:106295

ORIGINAL REFERENCE NO.: 64:20094c-d

TITLE: Differentiation between peptide hydrolases, especially the aminopeptidases (α -amino peptide-amino acid hydrolases) from animal and human organs and cells

AUTHOR(S): Hanson, H.

CORPORATE SOURCE: Martin Luther Univ., Halle/Saale, Germany

SOURCE: Beitr. Biochem. Physiol. Naturstoffen, Festschr. (1965) 219-33

DOCUMENT TYPE: Journal

LANGUAGE: German

AB Peptidase enzyme preps. from various sources and organs were studied and the optimal pH activities towards chloracetyl-L-tyrosine and carbobenzoxyglycyl-L-phenylalanine compared. For the comparison between animal and human enzymes, 9 different synthetic substrates were used. Responses to metal ions were different in each case. 51 references.

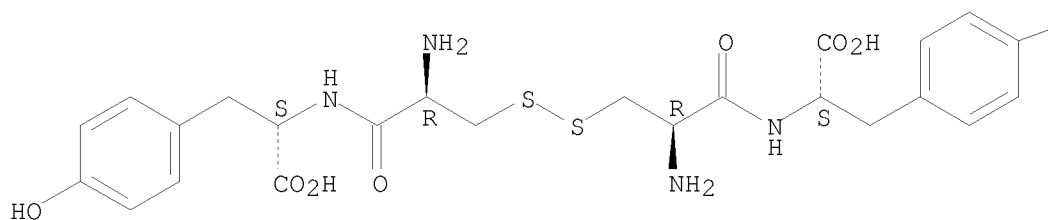
IT 7369-94-0, Tyrosine, N,N'-L-cystyldi-
(hydrolysis by aminopeptidases of organs and cells)

RN 7369-94-0 CAPLUS

CN L-Tyrosine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

—OH

L5 ANSWER 335 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1966:67644 CAPLUS

DOCUMENT NUMBER: 64:67644

ORIGINAL REFERENCE NO.: 64:12631c-e

TITLE: The chemistry of the aminochromes. IX. The reactions of glutathione with some halogenated aminochromes

AUTHOR(S): Mattok, G. L.; Heacock, R. A.

CORPORATE SOURCE: Univ. Hosp., Saskatoon

SOURCE: Canadian Journal of Chemistry (1966), 44(5), 565-73
CODEN: CJCHAG; ISSN: 0008-4042

DOCUMENT TYPE: Journal

LANGUAGE: English

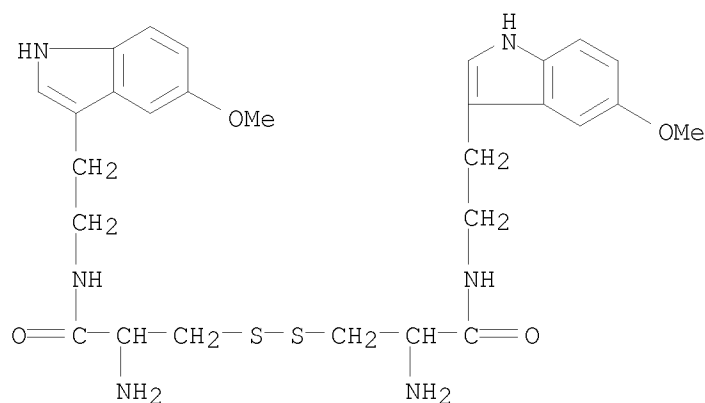
AB cf. CA 63, 11413b. 7-Iodoadrenochrome reacts with glutathione to give 5,6-dihydroxy-7-iodo-1-methylindole, 5,6-dihydroxy-1-methylindole, 7-S-glutathionyl-5,6-dihydroxy-1-methylindole, and a trace of a product that is probably 4-S-glutathionyl-5,6-dihydroxy-7-iodo-1-methylindole. It reacts with the monosodium salt of glutathione to give mainly 5,6-dihydroxy-7-iodo-1-methylindole and 4-S-glutathionyl-5,6-dihydroxy-7-iodo-1-methylindole, with smaller quantities of 7-S-glutathionyl-5,6-dihydroxy-1-methylindole and 5,6-dihydroxy-1-methylindole. 7-Bromoadrenochrome reacts with glutathione (free acid or monosodium salt) to give mainly 7-bromo-5,6-dihydroxy-1-methylindole and a second product, which is probably 7-bromo-4-S-glutathionyl-5,6-dihydroxy-1-methylindole. The main products that are obtained in reactions of this type result from either direct reduction of the aminochrome or 1,4-addition of the thiol to either of the α,β -unsatd. C5-carbonyl systems in the aminochrome mol.

IT 96867-73-1

(Derived from data in the 7th Collective Formula Index (1962-1966))

RN 96867-73-1 CAPLUS

CN Propionamide, 3,3'-dithiobis[2-amino-N-[2-(5-methoxyindol-3-yl)ethyl]-, trihydrobromide (7CI) (CA INDEX NAME)



● 3 HBr

L5 ANSWER 336 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1966:67643 CAPLUS

DOCUMENT NUMBER: 64:67643

ORIGINAL REFERENCE NO.: 64:12631a-c

TITLE: Synthesis of melatonin analogs

AUTHOR(S): Shchukina, L. A.; Suvorov, N. N.; Neklyudov, A. D.; Sorokina, N. P.

CORPORATE SOURCE: Inst. Chem. Natur. Prod., Moscow

SOURCE: Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1966), (1), 107-11

CODEN: IASKA6; ISSN: 0002-3353

DOCUMENT TYPE: Journal

LANGUAGE: Russian

OTHER SOURCE(S): CASREACT 64:67643

AB Heating $\text{CHCl}_2\text{CO}_2\text{Me}$ with 2-(3-indolyl)ethylamines at 120° 20 min. with distillation of resulting MeOH gave the following N-acyl-5-substituted tryptamines (acyl group and 5-substituent shown): CHCl_2CO , MeO, m. $117-18^\circ$; CHCl_2CO , PhCH₂O, m. $125-6^\circ$; similar reaction of

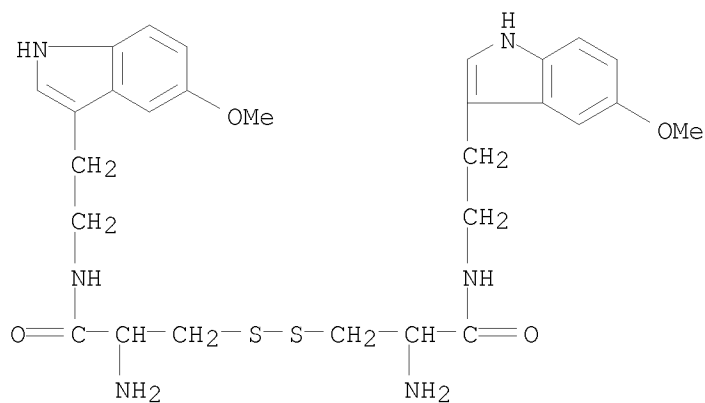
N-carbobenzoxyamino acids with iso-BuO₂CCl in EtOAc-Et₃N, followed by the tryptamines at -10°, and 12 hrs. at room temperature, gave the following tryptamines: carbobenzoxyglycyl, MeO, m. 124-5°; carbobenzoxy-L-alanyl, MeO, m. 143-4°; carbobenzoxy-L-glutamyl, MeO, γ-benzyl ester, m. 168-9°; carbobenzoxy-β-alanyl, MeO, m. 135-6°; carbobenzoxy-γ-butyryl, MeO, m. 115-16°; carbobenzoxy-L-α-aminobutyryl, MeO, m. 112-14°; hydrogenation of the carbobenzoxy derivs. over Pd-C gave the following tryptamines: glycyl, MeO, HCl salt, decomposed at 223-5°; glycyl, MeO, acetate, m. 122-3°; L-alanyl, MeO, tartrate, m. 62-4°; L-glutamyl, MeO, decomposed at 128-30°; β-alanyl, MeO, acetate, m. 133-5°; di-γ-butyryl, MeO, tartrate, a solid; L-α-aminobutyryl, MeO, tartrate, m. 158-9°; 5-Methoxytryptamine and bis(carbobenzoxy)cystine dichloride in EtOAc-Et₃N for 1 hr. at -10° and 12 hrs. at room temperature gave bis(carbobenzoxy)-L-cystinylbis(5-methoxytryptamine), m. 176-8°. This with 30% HBr in AcOH in 1 hr. gave L-cystinylbis(5-methoxytryptamine)-3HBr, decomposed at 208-9°.

IT 96867-73-1

(Derived from data in the 7th Collective Formula Index (1962-1966))

RN 96867-73-1 CAPLUS

CN Propionamide, 3,3'-dithiobis[2-amino-N-[2-(5-methoxyindol-3-yl)ethyl]-, trihydrobromide (7CI) (CA INDEX NAME)



● 3 HBr

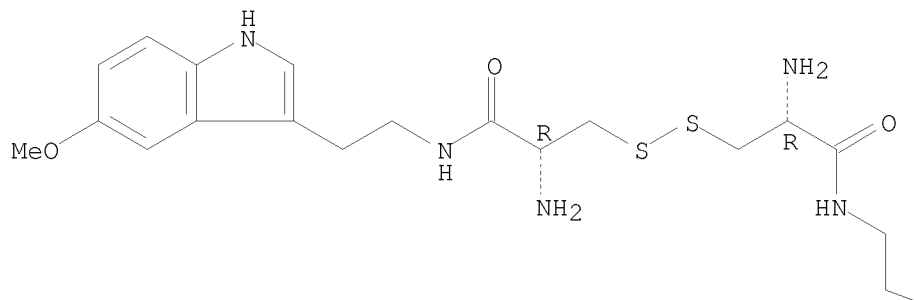
IT 5257-34-1P, Propionamide, 3,3'-dithiobis[2-amino-N-[2-(5-methoxyindol-3-yl)ethyl]-, trihydrobromide, L-
RL: PREP (Preparation)

(preparation of)

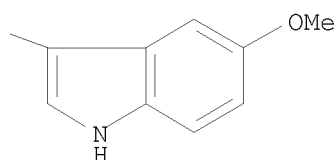
RN 5257-34-1 CAPLUS

CN Propionamide, 3,3'-dithiobis[2-amino-N-[2-(5-methoxyindol-3-yl)ethyl]-, trihydrobromide, L- (8CI) (CA INDEX NAME)

Absolute stereochemistry.



● 3 HBr



L5 ANSWER 337 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1966:19810 CAPLUS
 DOCUMENT NUMBER: 64:19810
 ORIGINAL REFERENCE NO.: 64:3686h, 3687a-c, 3688a-b
 TITLE: New decapeptides,
 L-seryl-L-tyrosyl-L-seryl-L- α -mercaptoalkyl-
 α -aminoacetyl-L-glutaminy-L-histidyl-L-
 phenylalanyl-L- α -aminoalkyl- α -aminoacetyl-
 L-tryptophylglycines
 PATENT ASSIGNEE(S): CIBA Ltd.
 SOURCE: 13 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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BE 644129
DE 1210877
FR AD85759
GB 1044143
NL 6401590

19640820

BE
DE
FR
GB
NL

CH

19630221

PRIORITY APPLN. INFO.:

AB The hexapeptide, γ -tert-Bu-Glu-His-Phe-Arg-Trp-Gly (I), an intermediate for the title compds. (Ia), is prepared by stepwise condensation of appropriate carbobenzoxy amino acids (Z = carbobenzoxy) with Trp-Gly-OMe to give the tetrapeptide, Phe-Arg-Trp-Gly-OMe. The latter is condensed with Z-(γ -tert-Bu)-Glu-His-N₃ and protecting groups are removed to give I, an intermediate in the synthesis of biol. active polypeptides (CA 63, 16465c). Paper (PC) and thin layer chromatography (TLC) were carried out in the following systems; 52, BuOH-AcOH-H₂O (100:10:30); 54, sec-BuOH-iso-PrOH-ClCH₂CO₂H-H₂O (70:10:3 g.:40); 56, sec-BuOH-iso-PrOH-5% sodium barbital-H₂O (100:15:10:60); 87, iso-PrOH-HCO₂H-H₂O (400:20:100); 100, EtOAc-C₅H₅N-AcOH-H₂O (60:20:6:1); 101, BuOH-C₅H₅N-AcOH-H₂O (30:20:6:24). A stirred solution of 40 g. Trp-Gly-OMe.HCl and 41.5 g. Z-Arg in 650 ml. absolute C₅H₅N was treated with 39.6 g. dicyclohexylcarbodiimide (DCC) at room temperature, the mixture kept overnight, dicyclohexylurea removed, and the filtrate concentrated to a thick oil, which was added in CHCl₃ solution to a large volume Et₂O. The amorphous product, Z-Arg-Trp-Gly-OMe.HCl (II) (77.3 g.) was collected and dried at 50°. II in 840 ml. 1.7N AcOH was decolorized and hydrogenated over 5 g. 10% Pd-C. After 6 hrs. (2.9 l. H consumed), catalyst was removed and the filtrate treated with Amberlite IRA-400 (AcO-) to remove Cl-. Resin was removed and washed with H₂O and the filtrate evaporated to give 74.5 g. Arg-Trp-Gly-OMe.2AcOH (III) as a gum. From 34.5 g. III and 23.8 g. p-MeC₆H₄SO₃H.H₂O in 200 ml. MeOH, 48 g. of the corresponding ditosylate (IV) was obtained as a gum after evaporation. A stirred solution of 45 g. IV,

26

g. Z-Phe, and 8.1 g. Et₃N in 450 ml. MeCN was treated with 19.3 g. DCC, the mixture kept overnight at 4° and concentrated, the product precipitated

with

Et₂O and passed over Amberlite IRA-400 (AcO-) in 50% tert-BuOH, and the alc. solution evaporated at 50° to give 49.2 g. Z-Phe-Arg-Trp-Gly-OMe.AcOH (V) as a gum, R_f (PC) 52, 0.83. V was hydrogenated over 10% Pd-C to give 96% Phe-Arg-Trp-Gly-OMe.AcOH (VI), R_f (PC) 52, 0.45; 54, 0.65; 56, 0.78; 87, 0.5. VI moves 18 cm. on paper electrophoresis in N AcOH, 7 v./cm. for 5 hrs. A vigorously stirred solution of Z-(γ -tert-Bu)-Glu-His-NHNH₂ (Fr. 1,310,534) in 106 ml. dimethylformamide (DMF) was treated at -5° with 16 ml. 6N HCl followed by 7.7 ml. 5M NaNO₂ and 16.3 g. of VI in 140 ml. DMF and 12 ml. Et₃N. After 2 hrs. at -5° and 15 hrs. at 0°, salts were separated, 11. EtOAc added to the DMF solution, salts again separated the solution concentrated, and the product precipitated with

EtOAc

chromatographed on alumina and eluted with 20 l. MeOH-CHCl₃ (1:9) to give 11 g. pure Z-(γ -tert-Bu)-Glu-His-Phe-Arg-Trp-Gly-OMe (VII), R_f (PC) 100, 0.3. Z-(γ -tert-Bu)-Glu-His-Phe-Arg-Trp-Gly (VIII), m. 206° (90% MeOH), R_f (TLC-silica gel) 52, 0.2; 101, 0.75, was prepared in 90% yield from 9.6 g. VII and 18 ml. N NaOH in 150 ml. dioxane for 20 min. Addition of 150 ml. H₂O and 30 ml. 10% AcOH followed by 30 min. at 0° gave VIII, which was hydrogenated in 300 ml. 90% AcOH to give 99% I (cf. Belg. 604,570). I may be condensed with the azide of tert-BuO₂C-Ser-Tyr-Ser-Met to give an example of the title decapeptides.

IT

4783-05-5

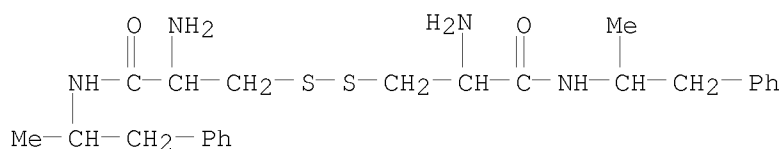
(Derived from data in the 7th Collective Formula Index (1962-1966))

RN

4783-05-5 CAPLUS

CN

Propionamide, 3,3'-dithiobis[2-amino-N-(α -methylphenethyl)-, L- (8CI) (CA INDEX NAME)



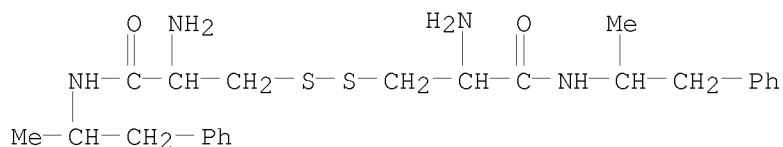
L5 ANSWER 338 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1966:19809 CAPLUS
 DOCUMENT NUMBER: 64:19809
 ORIGINAL REFERENCE NO.: 64:3686f-h
 TITLE: Amino acid esters
 INVENTOR(S): Izumiya, Nobuo; Makikado, Kei; Kato, Tetsuo
 PATENT ASSIGNEE(S): Asahi Chemical Industry Co., Ltd.
 SOURCE: 4 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 40022927	B4	19651009	JP	19620918
PRIORITY APPLN. INFO.:			JP	19620918

AB Manufacture of p-tosylate of amino acid Et ester, intermediate for the manufacture

of amino acid amide or peptide, was described. Thus, a mixture of 112 g. ϵ -carbobenzoxyllysine, 84 g. p-toluenesulfonic acid monohydrate, 160 ml. EtOH, and 800 ml. CCl₄ is boiled for 24 hrs. and concentrated in vacuo. To the residue are added 800 ml. Et₂O and 200 ml. petroleum ether to give 182 g. ϵ -carbobenzoxyl-L-lysine Et ester p-tosylate, m. 88° (Me₂CO-Et₂O). Similarly prepared are the following compds. (name of starting amino acid and m.p. of the resulting Et ester p-tosylate given):
 L- α -amino-butyric acid, 108°; α -aminoisobutyric acid, 131-2°; γ -amino-butyric acid, 83°; L-valine, 143-4°; L-norleucine, 12°; L-leucine, 158°; L-isoleucine, 160-1°; L-alloisoleucine, 129-31°; ϵ -aminocaproic acid, 118°; L-methionine, 127°; L-phenylalanine, 153°; L-tyrosine, 193°; S-benzyl-L-cysteine, 139°; γ -carbobenzoxylamino-L- α -aminobutyric acid, 103-4°; nitro-L-arginine, 142°; L-aspartic acid, (diester) 76°; L-glutamic acid, (diester) 89°; L-lysine, (ditosylate) 162°; L-histidine, (ditosylate) 122°.

IT 4783-05-5
 (Derived from data in the 7th Collective Formula Index (1962-1966))
 RN 4783-05-5 CAPLUS
 CN Propionamide, 3,3'-dithiobis[2-amino-N-(α -methylphenethyl)-, L- (8CI) (CA INDEX NAME)



L5 ANSWER 339 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1966:19805 CAPLUS
 DOCUMENT NUMBER: 64:19805

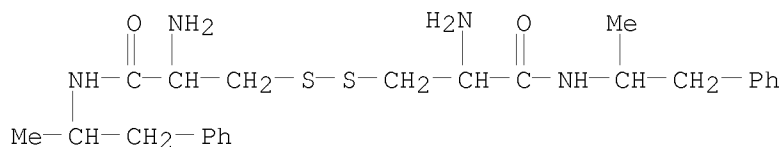
ORIGINAL REFERENCE NO.: 64:3685c-h,3686a-b
 TITLE: Amides from amino acids with amphetamine
 PATENT ASSIGNEE(S): F. Hoffmann-La Roche & Co. A.-G.
 SOURCE: 14 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
NL 6414901		19650728	NL 1964-14901	19641221
BE 658748			BE	
FR 1421130			FR	
PRIORITY APPLN. INFO.:			CH	19640127

AB Z = Ph-CH₂O₂C, X = D-(+)-Me(PhCH₂)CH throughout this abstract Z-D-Leu-OMe (20 g.) in 150 cc. EtOH treated 3 days at room temperature with 10 cc. N₂H₄.H₂O gave Z-D-Leu-NHNH₂, m. 120-1° (AcOEt-petr. ether); a 5.6-g. portion in 45 cc. N HCl and 10 cc. AcOH treated at -5° dropwise with 1.4 g. NaNO₂ in 10 cc. H₂O, and the product in AcOEt treated with 3.2 g. D-(+)-amphetamine (D-I) in AcOEt and refrigerated 24 hrs. yielded Z-D-Leu-NHX, m. 143-5° (aqueous EtOH), [α]_{23D} 34° (c 1.35, MeOH). Z-D-Leu-NHX (25 g.) in 200 cc. AcOEt hydrogenated over 2 g. Pd-C gave D-Leu-NHX, m. 35-6° (sublimed), [α]_{23D} 0.4 ± 1° (c 1.2, MeOH). Z-L-Ser-OH (4.8 g.) and 2.8 cc. Et₃N in 60 cc. tetrahydrofuran treated 0.5 hr. at -10° with 1.9 cc. ClCO₂Et and then 2 hrs. at room temperature with 2.7 g. I yielded 3.5 g. Z-L-Ser-NHX (II), m. 129-31° (CHCl₃-CCl₄), [α]_{27D} -8.6° (c 1.06, MeOH). II (18.6 g.) hydrogenolyzed and treated with 100 cc. 2N HCl-MeOH gave 9.2 g. L-Ser-NHX, m. 154-7° (1:8 MeOH-Et₂O), [α]_{26D} 3.82° (c 1.0, MeOH). Z-(MeO)Glu-OH (30.7 g.) in 150 cc. dry MeCN treated at -10° with 17 g. carbonyldiimidazole (III) and after about 1 hr. with 14 g. I in 50 cc. MeCN yielded Z-(MeO)Glu-NHX (IV), m. 171-2° (MeOH), [α]_{23D} 15.0° (c 2, HCONMe₂). IV (21 g.) hydrogenolyzed, and the product treated in H₂O with NH₄OH yielded L-pyrrolidin-2-one-5-carboxylic acid α-[D-(+)-1-phenyl-2-propyl]amide (V), m. 220-2°. Z-Leu-OC₆H₄NO₂-p (3.9 g.) in 50 cc. AcOEt treated 2 hrs. with 1.4 g. I yielded Z-Leu-NHX (VI), m. 119-21° (MeOH), [α]_{22D} -12.7° (c 1, MeOH). Z-Phe-OH (30 g.) in 300 cc. MeCN and 60 cc. HCONMe₂ treated at -10° with 16.2 g. III and after 1 hr. with 13.5 g. DL-I in 50 cc. MeCN and stirred 1 hr. at room temperature gave the DL-1-phenyl-2-propylamide (VII) of Z-Phe-OH, m. 127-8°, [α]_{23D} 4.2° (c 1, MeOH). VII (25 g.) hydrogenolyzed yielded phenylalanine DL-1-phenyl-2-propylamide. 3-Formyl-2,2-dimethyl-L-thiazolidine-4-carboxylic acid (VIII) (16 g.) in 120 cc. dry tetrahydrofuran treated with stirring at -10° with 14.4 g. III, stirred 20 min. at -10°, and treated 2 hrs. with stirring at -3° with 11.45 g. I in 30 cc. tetrahydrofuran gave the D-(+)-1-phenyl-2-propylamide of VIII, m. 107-8° (Et₂O), [α]_{25D} -133° (c 0.898, 90% AcOH). Leu-NHX (19.6 g.) in 250 cc. tetrahydrofuran and 14 cc. Et₃N treated at -30° with stirring with 21.7 g. Cl₅H₃₁COCl yielded 25.2 g. Cl₅H₃₁CO-Leu-NHX, m. 82-3° (AcOEt), [α]_{26D} 16.9° (c 1.16, 95% AcOH). VI (32.6 g.) in 200 cc. 90% AcOH hydrogenolyzed over 3 g. 5% Pd-C, and the product treated in 700 cc. AcOEt with 11.9 g. o-HOC₆H₄CO₂H and 17.9 dicyclohexylcarbodiimide (IX) and kept 16 hrs. at 2-4° yielded 4.4 g. o-HOC₆H₄CO-Leu-NHX, m. 177° (aqueous EtOH), [α]_{25D} -22.2° (c 0.98, 95% AcOH). N-Carbobenzyloxy-S-benzyl-L-cysteine (46.7 g.) and 18.3 g. I in 300 cc. AcOEt treated overnight at 2-4° with 27.8 g. IX gave 50.9 g. D-(+)-1-phenyl-2-propylamide, m. 125-7°, [α]_{25D} -15.4° (c 0.97, 95% AcOH); a 23-g. portion treated 1.5 hrs. at room temperature with 100 cc. 33% HBr-AcOH and the

product acetylated gave 14.3 g. N-acetyl-S-benzyl-L-cysteine D-(+)-1-phenyl-2-propylamide, m. 164-5° (AcOEt), $[\alpha]_{24D} -10.7^\circ$ (c 1.03, 95% AcOH). N,N;'-Bis(carbobenzyloxy)-L-cysteine (X) (44.4 g.) converted to the acid chloride and added at -50° with stirring to 21.7 g. I in 25 cc. Et3N in 300 cc. tetrahydrofuran, kept alkaline by the addition of Et3N, and kept 16 hrs. at room temperature gave the bis[D-(+)-1-phenyl-2-propylamide] of X, m. 199-201° (EtOH), $[\alpha]_{24D} -8.4^\circ$ (c 1.30, 95% AcOH); a 19.2-g. portion in 100 cc. AcOH treated 1.5 hrs. at room temperature with 100 cc. 33% HBr-AcOH gave 7.9 g. L-cysteine-bis[D-(+)-1-phenyl-2-propylamide], m. 243-6° (MeOH-Et2O), $[\alpha]_{24D} -23.3^\circ$ (c 1.01, H2O). Similarly were prepared the D-(+)-1-phenyl-2-propylamides of the following amino acids (m.p. and $[\alpha]_{23D}$ given): D-pyrrolidin-2-one-5-carboxylic acid, 126-7° 17.6° (c 1, MeOH); H-(MeO)Glu-OH.HCl, -- (oily), --; D-Z-(MeO)Glu-OH, 122-4° 24° (c 1, MeOH); H-Asp-OH, 211-12°, 18.9° (c 1, MeOH); D-H-Phe-OH.2HCl, --, -- (obtained as lyophilisate); H-Phe-OH, 95-6° 36° (c 1, MeOH); OHC-Phe-OH, 146-8°, --; H-Leu-OH, 79-80°, --; OHC-Tyr-OH, 192-5°, 27.1° (c 2, MeOH); H-Tyr-OH, 163-5°, 29.7° (c 2.4, MeOH); Na,Na'-bis(carbobenzyloxy)-D-lysine, 142-3°, 15.1° (c 2, HCONMe2); D-H-Lys-OH.2(CO2H)2, 204°, -14.2° (c 2, H2O); Na-tosyl-L-Lys-OH, 224-5°, 31.8° (c 1, 95% AcOH); N-carbobenzyloxy-S-benzyl-L-cysteine, 136-8°, -9.6° (c 1.3, MeOH); S-benzyl-L-cysteine, 198-200°, --; 2,2-dimethyl-L-thiazolidine-4-carboxylic acid HCl salt, 69-75°, 9.8° (c 1, 95% AcOH). Examples for the formulation of D-(+)-1-phenyl-2-propylamides in capsules and tablets are given.

IT 4783-05-5P, Propionamide, 3,3'-dithiobis[2-amino-N-(α -methylphenethyl)-, L-
 RL: PREP (Preparation)
 (preparation of)
 RN 4783-05-5 CAPLUS
 CN Propionamide, 3,3'-dithiobis[2-amino-N-(α -methylphenethyl)-, L-
 (8CI) (CA INDEX NAME)



L5 ANSWER 340 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1966:19803 CAPLUS
 DOCUMENT NUMBER: 64:19803
 ORIGINAL REFERENCE NO.: 64:3684h,3685a-b
 TITLE: Cystinylamides
 PATENT ASSIGNEE(S): N. V. Philips' Gloeilampenfabrieken
 SOURCE: 10 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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NL 301380		19650927	NL	19631204
BE 656560			BE	
FR 1431706			FR	
PRIORITY APPLN. INFO.:			NL	19631204

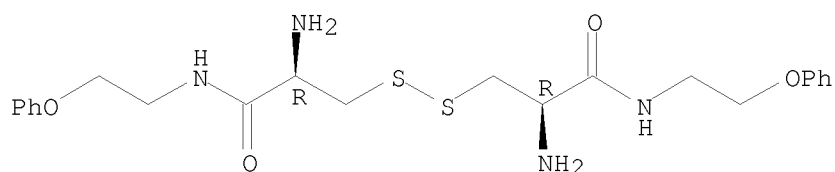
AB ClCH₂CN (48 g.) treated at 0° with 48 g. Et₃N and then at 0-5° during 1 hr. with 80 g. L-[SCH₂CH(NHO₂CCH₂Ph)CO₂H]₂ (I), stirred 2 hrs., kept overnight, and stirred 1 hr. at about 5° with 750 cc. AcOEt yielded 38.2 g. L-[SCH₂CH(NHO₂CCH₂Ph)CO₂CH₂CN]₂ (II), m. 103-4°. II (36.9 g.) in 150 cc. AcOEt treated 2 hrs. at room temperature with 17.5 g. PhOCH₂CH₂NH₂ and kept at 0-5° overnight yielded 20.7 g. L-[SCH₂CH(NHO₂CCH₂Ph)CONHCH₂CH₂OPh]₂ (III), m. 160-3° (EtOH). III (20.5 g.) stirred 1 hr. at room temperature with 250 cc. 50% HBr gave 10.1 g. [SCH₂CH(NH₂)CONHCH₂CH₂OPh]₂ (IV), m. 77-80°. I (5.08 g.) in 20 cc. dry tetrahydrofuran and 2.95 cc. Et₃N in 5 cc. tetrahydrofuran treated at -10° with stirring with 3 cc. ClCO₂Bu in a little tetrahydrofuran and then at -5° with 2.3 g. p-H₂NC₆H₄OH in 10 cc. HCONMe₂ and 12 cc. tetrahydrofuran, stirred 1 hr. at about 0°, and kept overnight yielded 1.94 g. L-SCH₂CH(NHO₂CCH₂Ph)CONHC₆H₄OH-p]₂, m. 155-60°; a 0.5-g. portion treated about 40 min. with 5 cc. 50% HBr yielded 0.38 g. L-[SCH₂CH(NH₂)CONHC₆H₄OH-p]₂ (V). IV and V are useful as oxytocinase inhibitors in pharmaceutical oxytocin solns.

IT 4703-47-3P, Propionamide, 3,3'-dithiobis[2-amino-N-(2-phenoxyethyl)-, L-
RL: PREP (Preparation)
(preparation of)

RN 4703-47-3 CAPLUS

CN Propionamide, 3,3'-dithiobis[2-amino-N-(2-phenoxyethyl)-, L- (8CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 341 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1966:11705 CAPLUS

DOCUMENT NUMBER: 64:11705

ORIGINAL REFERENCE NO.: 64:2155b-c

TITLE: A nuclear magnetic resonance study of the structures of L-and meso-cystine in aqueous solutions

AUTHOR(S): Glasel, Jay A.

CORPORATE SOURCE: Columbia Univ.

SOURCE: Journal of the American Chemical Society (1965), 87(23), 5472-5
CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: English

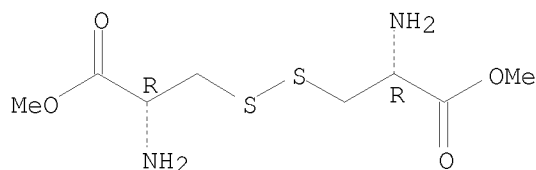
AB The N.M.R. spectra of L-cystine, meso-cystine, and their dimethyl esters in acidic and basic solutions are analyzed. The results indicate that the possible configurations for L-cystine are stabilized by intramolecular interactions between the two moieties. This is in contrast to meso-cystine where no stabilization is observed.

IT 1069-29-0, Cystine, dimethyl ester, L- 5027-64-5,
Cystine, dimethyl ester, meso-
(nuclear magnetic resonance of)

RN 1069-29-0 CAPLUS

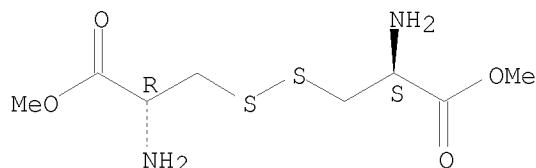
CN L-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



RN 5027-64-5 CAPLUS
 CN meso-Cystine, dimethyl ester (9CI) (CA INDEX NAME)

Relative stereochemistry.



L5 ANSWER 342 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1965:489281 CAPLUS
 DOCUMENT NUMBER: 63:89281
 ORIGINAL REFERENCE NO.: 63:16465h,16466a-b
 TITLE: Glutathione
 INVENTOR(S): Murakami, Masuo; Isaka, Ichiro; Inukai, Noriyoshi;
 Kubo, Kazuo; Ozawa, Isao
 PATENT ASSIGNEE(S): Yamanouchi Pharmaceutical Co., Ltd.
 SOURCE: 5 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 40016529	B4	19650729	JP	19630727

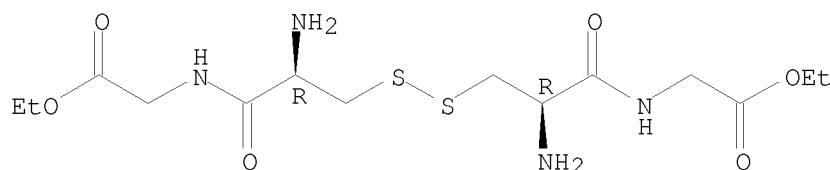
PRIORITY APPLN. INFO.: JP 19630727

AB To a mixture of 20.4 g. N,N'-bis(carbobenzoxo)-L-cystine, 11.2 g. glycine Et ester-HCl, and 200 ml. CHCl₃ is added 11.2 ml. NEt₃, cooled at -10° to -20°, and 7.4 ml. POCl₃ and 22.4 ml. NEt₃ are added to give 24.8 g. N,N'-bis(carbobenzoxo)-L-cystinyldiglycine Et ester (I), m. 164-5°. HCl gas is introduced into 500 ml. ethanolic solution of 20 g. I and the whole refluxed for 5 hrs. to give L-cystinyldiglycine Et ester-HCl (II), m. 90° (decomposition). To a mixture of 4.8 g. II, 6.18 g. Et N-carbobenzoxo-L-glutamate and 100 ml. CHCl₃ is added 2.8 ml. NEt₃, cooled at -15°, and 1.84 ml. POCl₃ and 5.6 ml. NEt₃ are added to give 8.65 g. bis(N-carbobenzoxo-γ-L-glutamyl)-L-cystinyldiglycine tetraethyl ester (III), m. 146-52° (dilute EtOH). Into an ice-cooling solution of 8 g. III in 120 ml. dioxane is dropped 120 ml. solution containing 1.5 g. NaOH, the whole stirred for 1 hr., adjusted to pH 6, evaporated, the residue dissolved in 300 ml. H₂O, acidified, and extracted with AcOEt to give 6.2 g. bis(N-carbobenzoxo-γ-L-glutamyl)-L-cystinyldiglycine (IV), m. 108-20° (decomposition). To a solution of 8.8 g. IV in 300 ml. liquid NH₃ is added 20 g. Na to give 3.1 g. glutathione, m. 192° (decomposition).

IT 2419-00-3P, Glycine, N,N'-L-cystyldi-, diethyl ester, dihydrochloride
 RL: PREP (Preparation)
 (preparation of)

RN 2419-00-3 CAPLUS
CN Glycine, N,N'-L-cystyl-di-, diethyl ester, dihydrochloride (6CI, 7CI, 8CI)
(CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 343 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1965:439396 CAPLUS
DOCUMENT NUMBER: 63:39396
ORIGINAL REFERENCE NO.: 63:7098b-e
TITLE: Synthesis of depsipeptide analogs of ophthalmic acid and glutathione
AUTHOR(S): Shchukina, L. A.; Zhuze, A. L.
CORPORATE SOURCE: Acad. Sci. U.S.S.R., Moscow
SOURCE: Peptides, Proc. European Symp., 5th, Oxford (1963), Volume Date 1962 189-93
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The syntheses of the depsipeptide analog, HO₂CCH(NH₂)CH₂CH₂CONHCHEtCOXCH₂CO₂H(I) (X = O) (II), of ophthalmic acid (I, X = NH) (III) and of III, and the attempted synthesis of the depsipeptide analog of glutathione are described briefly. (Z = PhCH₂O₂C throughout this abstract) ZNHCHEtCO₂H (IV), m. 77-8.5°, [α]₂₀D -12° (c 2.8, EtOH), condensed with p-O₂NC₆H₄CH₂CO₂CH₂OH, m. 114-15°, by the mixed anhydride method using PhSO₂Cl yielded 45% ZNHCHEtCO₂CH₂CO₂CH₂Cl₆H₄NO₂-p, m. 68-9°, [α]₂₁D -20° (c 1, EtOH), which with HBr-AcOH gave 95% p-O₂NC₆H₄CH₂-O₂CCH₂O₂CCHEtNH₂.HBr (V), m. 150-2°, [α]₂₃D 5.5° (c 1, MeOH). V condensed with ZNHCHZCH₂CH₂CO₂H by the mixed anhydride method using iso-BuO₂CCl gave 72% ZNHCHZCH₂CH₂CONHCHEtCO₂CH₂CO₂CH₂C₅H₄NO₂-p, m. 80-2°, [α]₂₄D -25° (c 1, HCONMe₂), which hydrogenolyzed in absolute EtOH in the presence of AcOH over Pd black yielded 96% non-crystalline II, [α]₂₀D -36° (c 3, AcOH). p-O₂NC₅H₄CH₂O₂CCH₂NH₂ condensed with IV in tetrahydrofuran in the presence of C₅H₅N using PhSO₂Cl yielded 40% ZNHCHEtCONHCH₂CO₂CH₂C₆H₄NO₂-p, m. 114-15°, [α]₂₀D -10° (c 2, AcOEt), which treated with HBr-AcOH gave 97% p-O₂NC₅H₄CH₂O₂CCH₂NHCOCHEtNH₂.HBr (VI), m. 131-2°, [α]₂₀D 10° (c 1, MeOH). p-O₂NC₆H₄CH₂O₂CNHCHZCH₂CH₂CO₂pH, m. 99-101°, [α]₂₀D -19° (c 2, AcOH), condensed with VI by the mixed anhydride method using iso-BuO₂CCl yielded 82% p-O₂NC₆H₄CH₂O₂CNHCHZCH₂CH₂CONHCHEtCONHCH₂O₂CH₂C₆H₄NO₂, m. 171-3°, [α]₂₀D -22° (c 3, AcOH), which hydrogenolyzed over Pd black gave III. [SCH₂CH(NHZ)COCl]₂ condensed in C₅H₅N with p-O₂NC₆H₄CH₂CO₂CCH₂OH yielded [p-O₂NC₆H₄CH₂O₂CCH₂O₂CCH(NHZ)CH₂S]₂, m. 117-19°, [α]₂₀D -47.5° (c 1, AcOH), which cleaved with HBr-AcOH gave [p-O₂NC₆H₄CH₂O₂CCH₂O₂CCH(NH₂.HBr)CH₂S]₂ (VII), m. 135-7°, [α]₁₀D -55° (c 1, MeOH). p-O₂NC₅H₄CH₂O₂CNHCHZCH₂CH₂CO₂H condensed with VII by the anhydride method using iso-BuO₂CCl yielded p-

O2NC6H4CH2O2CCH2O2CCH[NHCOCH2CH2CH(NHO2CCH2C6H4NO2-p)CO2CH2Ph]CH2S]2 (VIII), m. 100-5°, [α]24D -61° (c 1, HCONMe2). The attempted hydrogenolysis of VIII to the depsipeptide analog of glutathione was unsuccessful.

IT 2830-16-2P, Cystine, diester with p-nitrobenzyl glycolate, dihydrobromide

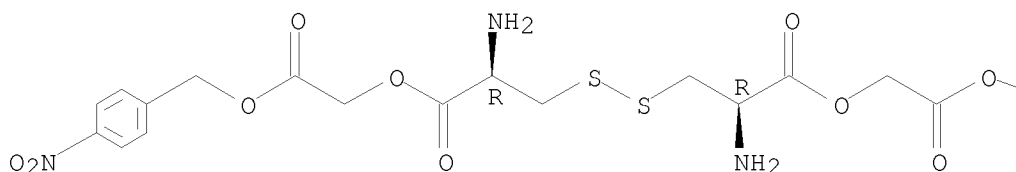
RL: PREP (Preparation)
(preparation of)

RN 2830-16-2 CAPLUS

CN Cystine, diester with p-nitrobenzyl glycolate, dihydrobromide, L- (8CI)
(CA INDEX NAME)

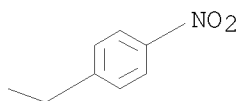
Absolute stereochemistry.

PAGE 1-A



● 2 HBr

PAGE 1-B

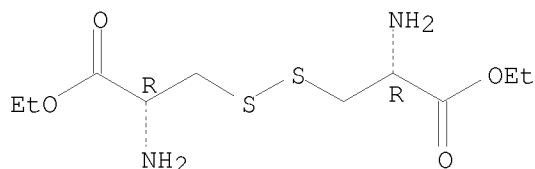


L5 ANSWER 344 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1965:411169 CAPLUS
 DOCUMENT NUMBER: 63:11169
 ORIGINAL REFERENCE NO.: 63:2011c-e
 TITLE: The effect of disulfides on mitochondrial oxidations
 AUTHOR(S): Skrede, S.; Bremer, J.; Eldjarn, L.
 CORPORATE SOURCE: Univ. of Oslo, Norway
 SOURCE: Biochemical Journal (1965), 95, 838-46
 CODEN: BIJOAK; ISSN: 0264-6021
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB NAD-linked mitochondrial oxidns. were inhibited by N,N,N',N'-tetraethylcystamine, cystamine, and cystine di-Et ester, whereas L-homocystine, oxidized mercaptoethanol, oxidized glutathione, N,N'-diacetylcystamine, and tetrathionate were only slightly inhibitory. Mitochondrial oxidns. were not blocked by cysteamine. NAD-independent oxidns. were not inhibited by cystamine. The oxidation of choline was initially stimulated. The inactivation of isocitrate, malate, and β -hydroxybutyrate oxidation of intact mitochondria could be partially reversed by external NAD. For the reactivation of α -oxoglutarate oxidation a thiol was also required. A leakage of nicotinamide nucleotides from the mitochondria is suggested as the main cause of the inhibition. In addition, a strong inhibition of α -oxoglutarate dehydrogenase by cystamine was observed. A mixed disulfide formation with CoA and possibly also lipoic acid and lipoyl dehydrogenase is suggested to explain this inhibition.

IT 583-89-1
(Derived from data in the 7th Collective Formula Index (1962-1966))
RN 583-89-1 CAPLUS
CN L-Cystine, 1,1'-diethyl ester (CA INDEX NAME)

Absolute stereochemistry.

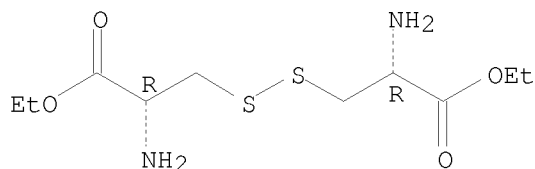


L5 ANSWER 345 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1965:411168 CAPLUS
DOCUMENT NUMBER: 63:11168
ORIGINAL REFERENCE NO.: 63:2011b-c
TITLE: Movements of H⁺, K⁺, and Na⁺ during energy-dependent uptake and retention of Ca⁺⁺ in rat liver mitochondria
AUTHOR(S): Drahota, Zdenek; Lehninger, Albert L.
CORPORATE SOURCE: School of Med., Johns Hopkins Univ., Baltimore, MD
SOURCE: Biochemical and Biophysical Research Communications (1965), 19(3), 351-6
CODEN: BBRCA9; ISSN: 0006-291X
DOCUMENT TYPE: Journal
LANGUAGE: English

AB cf. CA 61, 14923b. Na⁺ and K⁺ did not influence the rate and stoichiometry of energy-linked Ca⁺⁺ accumulation and H⁺ extrusion by rat liver mitochondria. This process was not accompanied by stoichiometric movement of Na⁺ and K⁺ between mitochondria and medium. K⁺ stimulated the efflux of accumulated Ca⁺⁺, the linked stoichiometric influx of H⁺, and the swelling of the mitochondria, whereas in an all Na⁺ medium the accumulated Ca⁺⁺ was maintained in a steady-state for long periods, without swelling of the mitochondria.

IT 583-89-1
(Derived from data in the 7th Collective Formula Index (1962-1966))
RN 583-89-1 CAPLUS
CN L-Cystine, 1,1'-diethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 346 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1965:37590 CAPLUS
DOCUMENT NUMBER: 62:37590
ORIGINAL REFERENCE NO.: 62:6552h, 6553a
TITLE: Location of free radicals on the surface of carbon black
AUTHOR(S): Ohkita, K.; Kasahara, H.; Ishizuki, N.; Itakagi, Y.
CORPORATE SOURCE: Univ., Niigata, Japan
SOURCE: Nippon Gomu Kyokaishi (1963), 36, 361-7
From: CZ 1964(27), Abstr. No. 2664.

DOCUMENT TYPE: Journal
 LANGUAGE: Japanese

AB The concentration of free radicals on 3 different carbon blacks, Philblack O, Vulcan SC, and Spheron C, was measured at 25-40° by using Bz2O2 as a source of benzoyloxy radicals (I) in CCl4 or CS2. Formation of PhCO2H indicates that the H from the benzenoid ring on the carbon black surface is replaced by I. The number of the I fixed by carbon black is determined by saponification after C6H6 extraction. For Spheron C, the value is 1.8×10^{20}

I/g.

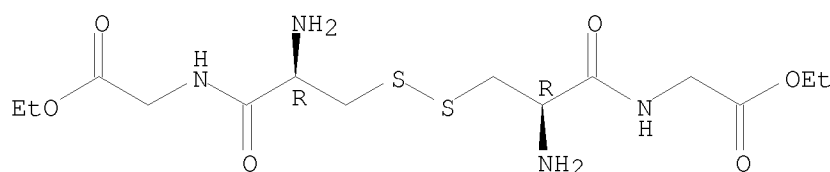
IT 2419-00-3

(Derived from data in the 7th Collective Formula Index (1962-1966))

RN 2419-00-3 CAPLUS

CN Glycine, N,N'-L-cystyldi-, diethyl ester, dihydrochloride (6CI, 7CI, 8CI)
 (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 347 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1965:37076 CAPLUS

DOCUMENT NUMBER: 62:37076

ORIGINAL REFERENCE NO.: 62:6553a-c

TITLE: Further studies on the tryptophan parts of ilamycins

AUTHOR(S): Takita, Tomohisa; Naganawa, Hiroshi; Maeda, Kenji;
 Umezawa, Hamao

CORPORATE SOURCE: Inst. Microbial Chem., Tokyo

SOURCE: J. Antibiotics (Tokyo) (1964), 17(6;Ser. A), 264-5

DOCUMENT TYPE: Journal

LANGUAGE: English

GI For diagram(s), see printed CA Issue.

AB Methylilamycin obtained by treatment of ilamycin with CH2N2 could be neither acetylated by Ac2O-pyridine nor oxidized by CrO3-pyridine complex, casting doubt on the initial assignment of an alc. function (CA 61, 9578d). This, together with other information (CA 61, 4478e), indicated that the tryptophan part of the structures of ilamycin, ilamycin B1, and ilamycin B2 should be revised to I, II, and I, resp.

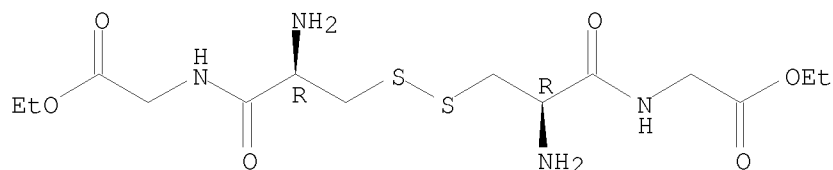
IT 2419-00-3

(Derived from data in the 7th Collective Formula Index (1962-1966))

RN 2419-00-3 CAPLUS

CN Glycine, N,N'-L-cystyldi-, diethyl ester, dihydrochloride (6CI, 7CI, 8CI)
 (CA INDEX NAME)

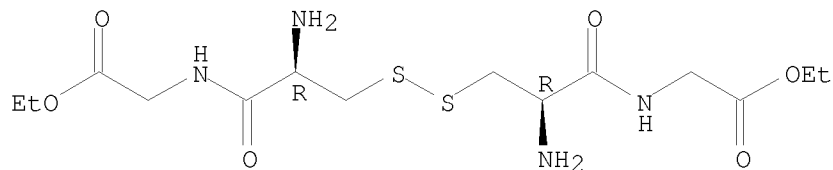
Absolute stereochemistry.



● 2 HCl

L5 ANSWER 348 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1965:37075 CAPLUS
 DOCUMENT NUMBER: 62:37075
 ORIGINAL REFERENCE NO.: 62:6552h,6553a
 TITLE: New methods in peptide synthesis. II. Further examples of the use of the o-nitrophenylsulfenyl group for the protection of amino groups
 AUTHOR(S): Zervas, Leonidas; Hamalidis, Charalambos
 CORPORATE SOURCE: Univ. Athens, Greece
 SOURCE: Journal of the American Chemical Society (1965), 87(1), 99-104
 CODEN: JACSAT; ISSN: 0002-7863
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 62:37075
 AB cf. CA 60, 655d. Further examples were presented of the usefulness of the N-o-nitrophenylsulfenyl group as a N-protecting group for α-amino acids or α-amino acids bearing a protected side-chain functional group. The wide applicability of the new method was demonstrated by the synthesis of various peptides, e.g., L-Phe-L-Glu(NH2)-L-Glu-L-Glu(NH2), which normally present great difficulties in their synthesis by conventional methods.
 IT 2419-00-3P, Glycine, N,N'-L-cystyl-di-, diethyl ester, dihydrochloride
 RL: PREP (Preparation)
 (preparation of)
 RN 2419-00-3 CAPLUS
 CN Glycine, N,N'-L-cystyl-di-, diethyl ester, dihydrochloride (6CI, 7CI, 8CI)
 (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 349 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1964:485688 CAPLUS
 DOCUMENT NUMBER: 61:85688
 ORIGINAL REFERENCE NO.: 61:14980d-e
 TITLE: Inhibitory actions of synthetic peptides on the

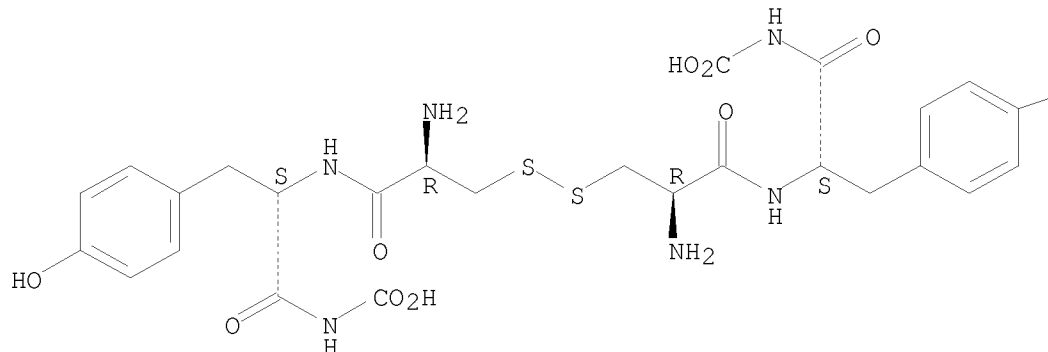
effects of oxytocin and vasopressin
 AUTHOR(S): Ishida, Yukio; Hara, Kazuko
 CORPORATE SOURCE: Univ. Tokushima, Tokyo
 SOURCE: Chemical & Pharmaceutical Bulletin (1964), 12(8),
 872-7
 CODEN: CPBTAL; ISSN: 0009-2363
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable

AB Peptides containing tyrosine were synthesized for the purpose of obtaining more potent antagonistic substances against oxytocin (I). They showed more or less competitive inhibition to the contraction of rat uterus by I. Some peptides that did not contain tyrosine, on the other hand, exhibited no inhibitory action. Since carbobenzoxytyrosyltyrosinate was the most effective among these peptides, its effects on the dose-response curves of acetylcholine, BaCl₂, and I were tested on the isolated rat uterus. Carbobenzoxylated peptides containing tyrosine competitively inhibited the action of I on the isolated rat uterus. Among these peptides, carbobenzoxy-L-tyrosyl-L-tyrosinate was the most active and 30.4-fold more potent than p-nitrophenol on the molar basis. Dicarbobenzoxy-L-cystinyldi-L-tyrosine ethyl ester, having a low activity of inhibition of contraction by I, inhibited about 50% of avian depressure by I, and almost inhibited the raising of blood pressure by vasopressin in dog and rabbit.

IT 889870-93-3, Tyrosinamide, (N,N'-dicarboxy-L-cystyl)di-, L-
 (effect on uterus response to oxytocins and vasopressins)
 RN 889870-93-3 CAPLUS
 CN Tyrosinamide, (N,N'-dicarboxy-L-cystyl)di-, L- (7CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



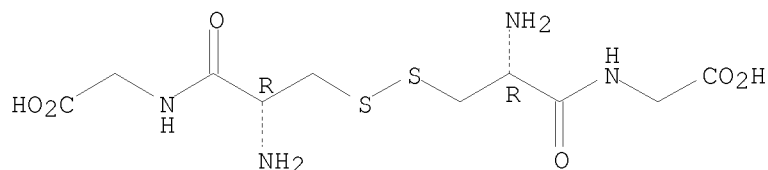
PAGE 1-B

—OH

L5 ANSWER 350 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1964:484606 CAPLUS
 DOCUMENT NUMBER: 61:84606
 ORIGINAL REFERENCE NO.: 61:14781e-f
 TITLE: Amino-acids and peptides. XX.
 S-Benzylthiomethyl-L-cysteine and its use in the
 synthesis of peptides
 AUTHOR(S): Brownlee, P. J. E.; Cox, M. E.; Handford, B. O.;

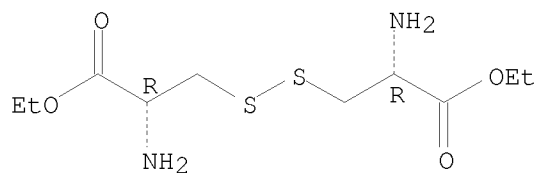
Marsden, J. C.; Young, G. T.
 CORPORATE SOURCE: Univ. Oxford, UK
 SOURCE: Journal of the Chemical Society (1964), (Oct.),
 3832-40
 CODEN: JCSOA9; ISSN: 0368-1769
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 61:84606
 AB The preparation of S-benzylthiomethyl-L-cysteine and some simple derivs. was described. S-Benzylthiomethyl-L-cysteine was stable to HBr in HOAc under the conditions required for the removal of N-benzyloxycarbonyl groups. An improved procedure for the removal of the S-benzylthiomethyl group was developed, and this new method of S-protection was used in the synthesis of diglycyl-L-cystine and L-cystinyldiglycine in good yield. S-Phenylthiomethyl- and S-isobutoxymethyl-L-cysteine were described.
 IT 7729-20-6P, Glycine, N,N'-L-cystyl-di-
 RL: PREP (Preparation)
 (preparation of)
 RN 7729-20-6 CAPLUS
 CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 351 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1964:484597 CAPLUS
 DOCUMENT NUMBER: 61:84597
 ORIGINAL REFERENCE NO.: 61:14777a-b
 TITLE: Polypeptides. XI. Studies on the synthesis of
 unsymmetrical peptides of cystine
 AUTHOR(S): Rydon, H. N.; Serrao, F. O. dos S. P.
 CORPORATE SOURCE: Univ. Exeter, UK
 SOURCE: Journal of the Chemical Society (1964), (Oct.),
 3638-44
 CODEN: JCSOA9; ISSN: 0368-1769
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 61:84597
 AB cf. CA 60, 14602e. Two routes for the synthesis of unsym. peptides of cystine are outlined. The 1st involves the coupling of an N-protected amino acid or peptide with an N-monosubstituted cystine diester, e.g., N-monobenzyloxycarbonylcystine di-Et ester; the 2nd involves the coupling of an N-protected amino acid or peptide with a large excess of cystine di-Et ester and further coupling of the unsym. product with another N-protected amino acid or peptide. A number of protected unsym. cystine peptides have been synthesized by these procedures, but their full exploitation awaits the development of more selectively removable N-protecting groups.
 IT 583-89-1P, Cystine, diethyl ester 95839-38-6P, Cystine,
 diethyl ester, di-p-toluenesulfonate, L-
 RL: PREP (Preparation)
 (preparation of)
 RN 583-89-1 CAPLUS
 CN L-Cystine, 1,1'-diethyl ester (CA INDEX NAME)

Absolute stereochemistry.

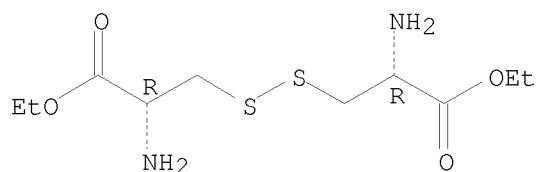


RN 95839-38-6 CAPLUS
CN L-Cystine, diethyl ester, bis(4-methylbenzenesulfonate) (9CI) (CA INDEX NAME)

CM 1

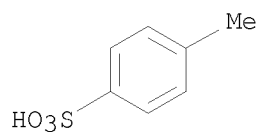
CRN 583-89-1
CMF C10 H20 N2 O4 S2

Absolute stereochemistry.



CM 2

CRN 104-15-4
CMF C7 H8 O3 S



L5 ANSWER 352 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1964:428317 CAPLUS

DOCUMENT NUMBER: 61:28317

ORIGINAL REFERENCE NO.: 61:4936g-h, 4937a

TITLE: Gas chromatographic analysis of amino acids as
N-trifluoroacetamido acid methyl esters

AUTHOR(S): Cruickshank, Philip A.; Sheehan, John C.

CORPORATE SOURCE: FMC Corp., Princeton, NJ

SOURCE: Anal. Chem. (1964), 36(7), 1191-7

CODEN: ANCHAM; ISSN: 0003-2700

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

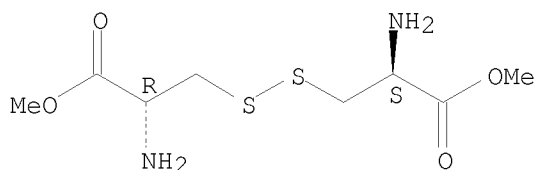
AB The anal. was completed in 2 h. The cystine in the 100- μ mol sample was reduced by refluxing 5 min. in 4 mL. H₂O with 0.1 mL. EtSH, acidifying, evaporating with N, and filtering the NaCl from the MeOH-HCl solution The solution

was esterified by refluxing 30 min. with 1 mL. Me₂SO₃, evaporating, and drying in high vacuum. The residue was refluxed 10 min. with 1 mL. (F3CCO)₂O(I), and the product dried with a N stream and redissolved in I for chromatog.

An alternate method, finished in 15 min. but giving no arginine or histidine derivs., was to acetylate with I, then esterify with CH₂N₂ in ether and dissolve in MeCN. The column was 80-100-mesh Gas Chrom P coated with 5 weight % neopentyl glycol succinate in a 2-ft. stainless steel tube of 1.5 mm. inside diameter. The Ar flow rate was 18 mL./min. and the temperature programmed from 65° to 210° over 75 min. Separation was quant. within 10%. Lengthening the column separated the glutamic acid and phenylalanine derivs. more nearly completely, but blurred the peaks for threonine and glycine.

IT 5027-64-5, Cystine, dimethyl ester, meso-
 (trifluoroacetyl derivative, chromatog. of)
 RN 5027-64-5 CAPLUS
 CN meso-Cystine, dimethyl ester (9CI) (CA INDEX NAME)

Relative stereochemistry.



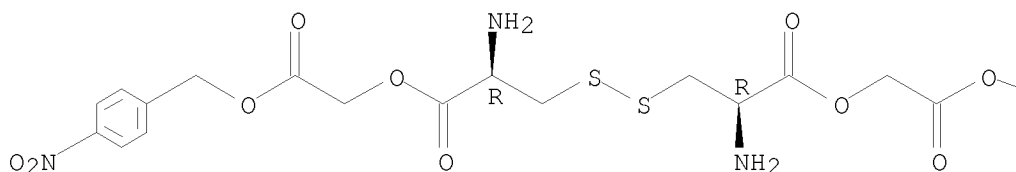
L5 ANSWER 353 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1964:425732 CAPLUS
 DOCUMENT NUMBER: 61:25732
 ORIGINAL REFERENCE NO.: 61:4469g-h, 4470a-c
 TITLE: Depsipeptide analogs of biologically active peptides.
 I. Synthesis of depsipeptide analogs of ophthalmic acid and glutathione
 AUTHOR(S): Shchukina, L. A.; Zhuze, A. L.; Semkin, E. P.; Krasnova, S. N.
 CORPORATE SOURCE: Inst. Chem. Natur. Products, Moscow
 SOURCE: Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1964), (4), 685-92
 CODEN: IASKA6; ISSN: 0002-3353
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 OTHER SOURCE(S): CASREACT 61:25732
 AB L-EtCH(NH₂)CO₂H treated with carbobenzoxy chloride in N NaOH at 2-5° at pH 8 gave the carbobenzoxy derivative (I), m. 78-9°. Glycolic acid and p-O₂NC₆H₄CH₂OH in MePh in the presence of p-MeC₆H₄SO₃H gave 40% p-nitrobenzyl ester, m. 108-11°. This added to I and PhSO₂Cl in C₅H₅N at -10°, then warmed to room temperature over 3 hrs. gave after an aqueous treatment 45% p-nitrobenzyl ester of N-carbobenzoxy-L-α-aminobutyrylglycolic acid, m. 66-7°; HBr salt m. 150-2°, and Et₃N in tetrahydrofuran (THF) at -5° gave a precipitate, which was directly treated with iso-BuO₂CCl and Et₃N overnight and gave after an aqueous treatment 70% PhCH₂O₂CNHCH(CO₂CH₂Ph)CH₂CH₂CONHCHEtCO₂CH₂CO₂CH₂C₆H₄NO₂-p, m. 78-82°. This hydrogenated over Pd in absolute EtOH-AcOH to 99% H₂NCH(CO₂H)CH₂CH₂CONHCHEtCO₂CH₂CO₂H, a very hygroscopic substance. Glycine heated in MePh with p-O₂NC₆H₄CH₂OH in the presence of p-MeC₆H₄SO₃H 2 hrs. gave the p-nitrobenzyl ester p-toluenesulfonate, which added to N-carbobenzoxy-α-aminobutyric acid and PhSO₂Cl in C₅H₅N at -10°, then kept 2 hrs. at room temperature, gave after an aqueous treatment 88% PhCH₂O₂CNHCHEtCONHCH₂CO₂CH₂C₆H₄NO₂-p, m. 114-15°; HBr salt (II), m. 133-5°, of the free amino analog was formed by treatment with 36% HBr in AcOH 0.5 hr. with elimination of the carbobenzoxy group. α-Benzyl glutamate and p-nitrocarbobenzoxy chloride in aqueous dioxane-K₂CO₃ at pH 8 at 0° gave 79%

p-O₂NC₆H₄CH₂O₂CNHCH(CO₂CH₂Ph)CH₂CH₂CO₂H (III), m. 99-101°. This added to II treated with Et₃N in THF at -5°, followed by iso-BuO₂CCl gave after 12 hrs. at room temperature and an aqueous treatment 62% p-O₂NC₆H₄CH₂O₂CNHCH(CO₂CH₂Ph)-CH₂CH₂CO₂CH₂CH₂CH₂CO₂H₄NO₂-p, m. 171-3°, which hydrogenated over 10% Pd-C in 15% AcOH to ophthalmic acid H₂NCH(CO₂H)CH₂CH₂CO₂CH₂CH₂CH₂CO₂H, m. 178-80°, [α]_D²⁰ -29°. Dicarbobenzoxycystine was converted to the dichloride and this with p-nitrobenzyl glycolate in THF 5H₅N at 0° 0.5 hr. and at room temperature 1 hr., gave after an aqueous treatment 40% [SCH₂CH(NHCO₂CH₂Ph)CO₂CH₂CO₂CH₂C₆H₄NO₂-p]₂, m. 117-19°, which with 36% HBr in AcOH gave the decarbobenzoxylated analog, as di-HBr salt, m. 133-7° (decomposition), which treated with Et₃N in THF, then added to the mixture of III, Et₃N and iso-BuO₂CCl in THF at -5°, gave after 12 hrs. at room temperature, followed by an aqueous treatment, 82% [SCH₂CH[NHCOCH₂CH₂CH(CO₂CH₂Ph)NHCO₂CH₂C₆H₄NO₂-p]C - O₂CH₂CO₂CH₂C₆H₄NO₂-p]₂, m. 100-20°.

IT 2830-16-2P, Cystine, diester with p-nitrobenzyl glycolate, dihydrobromide
 RL: PREP (Preparation)
 (preparation of)
 RN 2830-16-2 CAPLUS
 CN Cystine, diester with p-nitrobenzyl glycolate, dihydrobromide, L- (8CI)
 (CA INDEX NAME)

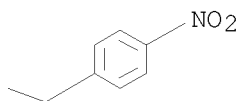
Absolute stereochemistry.

PAGE 1-A



● 2 HBr

PAGE 1-B



L5 ANSWER 354 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1964:91226 CAPLUS
 DOCUMENT NUMBER: 60:91226
 ORIGINAL REFERENCE NO.: 60:15977a-d
 TITLE: New method for the protection of the sulfhydryl group during peptide synthesis
 AUTHOR(S): Akabori, Shire; Sakakibara, Shumpei; Shimonishi, Yasutsugu; Nobuhara, Yoshifumi
 CORPORATE SOURCE: Univ. Osaka
 SOURCE: Bulletin of the Chemical Society of Japan (1964), 37(3), 433-4
 CODEN: BCSJA8; ISSN: 0009-2673
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable

OTHER SOURCE(S): CASREACT 60:91226

AB The p-methoxybenzyl group is useful for masking a thiol; the S-p-methoxybenzyl group is easily cleaved by boiling CF₃CO₂H, but is not affected by HBr. L-Cysteine treated with p-MeOC₆H₄CH₂Cl in liquid NH₃ gave 78% S-p-methoxybenzyl-L-cysteine (I), plates, decomposed 198-9° (H₂O), [α]₂₅D 22.6° (c 1.02, N NaOH). I treated with anhydrous CF₃CO₂H containing PhOH or anisole, followed by oxidation with iodine solution

gave 84% L-cystine of the same optical activity as the starting material. I with carbobenzoxy chloride in a basic medium gave 76% N-carbobenzoxy-S-p-methoxybenzyl-L-cysteine (II), needles, m. 66-7° (PhMe), [α]₂₄D -42.1° (c 2, Me₂CO); dicyclohexylamine salt, needles, m. 148-9° (EtOH-Et₂O), [α]₂₇D -8.4° (c 2.22, EtOH). II with HBr in HOAc gave 77% I. II coupled with Et glycinate in the presence of dicyclohexylcarbodiimide in dry MeCN gave 81% Et carbobenzoxy-S-p-methoxybenzyl-L-cysteinylglycinate (III), needles, m. 87.5-9.5° (EtOAc-petr. ether), [α]₂₇D -31.1° (c 3.15, EtOH). Hydrolysis of III in dioxane with N NaOH gave 69% carbobenzoxy-S-p-methoxybenzyl-L-cysteinylglycine (IV), needles, m. 132-3.5° (EtOAc-petr. ether), [α]₂₄D -35.0° (c 3.14, EtOH). Treatment of IV with HBr followed by neutralization with NaOAc gave 83% S-p-methoxybenzyl-L-cysteinylglycine (V), decomposed 164-4.5 [α]₂₅D 29.3° (c 2, N NaOH). Refluxing V with anhydrous CF₃CO₂H containing PhOH gave cysteinylglycine, which was oxidized by iodine solution

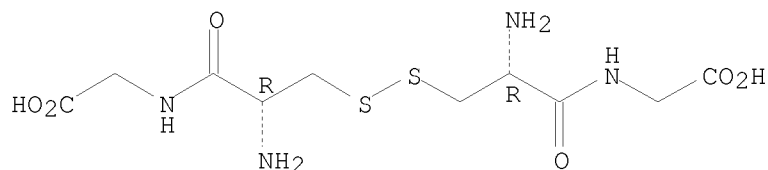
to give 48% L-cystinyldiglycine.

IT 7729-20-6P, Glycine, N,N'-L-cystyl-di-
RL: PREP (Preparation)
(preparation of)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 355 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1964:10004 CAPLUS

DOCUMENT NUMBER: 60:10004

ORIGINAL REFERENCE NO.: 60:1835g-h,1836a-h

TITLE: Synthesis of 1-lysine, 1-ornithine, 1-citrulline, 1-glutamic acid, and 1-dearginine bradykinin

AUTHOR(S): Nicolaides, E. D.; DeWald, H. A.; Craft, M. K.

CORPORATE SOURCE: Parke Davis & Co., Ann Arbor, MI

SOURCE: Journal of Medicinal Chemistry (1963), 6(6), 739-41
CODEN: JMCMAR; ISSN: 0022-2623

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB The title compds. were prepared to evaluate the requirements of the N-terminal part of bradykinin for retaining-biol, activity. (Z = PhCH₂O₂C, NP = p-nitrophenyl, and Cit = citrulline moiety throughout this abstract; all m.ps. were corrected; all [α]_D determined at 23°; all amino acids except glycine have the L-configuration). The starting compound for all 5 analogs was Z-Pro-Pro-Gly-Phe-Ser(Ac)-Pro-Phe-Arg(NO₂)-OMe (I) (CA 56, 8831g). I (250 mg.) in 20 ml. MeOH stirred 1 hr. at room temperature with

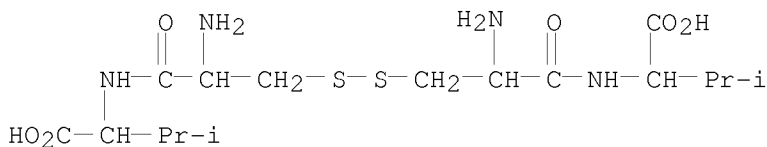
ml. 2N NaOH, the solution diluted with 75 ml., treated with 1.5 ml. N HCl, the precipitate (200 mg.) filtered off, washed with H₂O, dried, and dissolved in 30 ml. 2:1 AcOH-MeOH, the solution hydrogenated 24 hrs. at slight pressure over 250 mg. Pd black catalyst, filtered, and evaporated, the residue dissolved in 50 ml. H₂O, and the solution shell frozen and lyophilized gave 155 mg. H-Pro-Pro-Gly-Phe-Ser-Pro-Phe-Arg-OH diacetate salt (1-dearginine bradykinin) (II.2AcOH) tetrahydrate, powder, $[\alpha]_{23D} -83.7^\circ$ (c 0.43, H₂O). I (2.1 g.) kept 2 hrs. with 3 g. anhydrous HBr in 50 ml. AcOH, the solution poured into Et₂O, the precipitate collected, dried in vacuo, and dissolved in 30 ml. HCONMe₂ (DMF), the solution cooled to 0°, treated with 1 ml. Et₃N, filtered, treated with 1.5 g. Z-Lys(Z)-ONP, stirred 2 days at 25°, concentrated to 10 ml. diluted with EtOAc, and the precipitate recrystd. twice from MeOH-Et₂O gave 2 g. Z-Lys(Z)-Pro-Pro-Gly-Phe-Ser(Ac)-Pro-Phe-Arg(NO₂)-OMe (III) trihydrate, m. 140-5°, $[\alpha]_D -76^\circ$ (c 1, MeOH). III (1.8 g.) in 30 ml. MeOH kept 1 hr. with 1.5 ml. 2N NaOH, diluted with 75 ml. H₂O, and treated with 1.6 ml. 2N HCl gave 1.5 g. corresponding dicarbobenzoxy nonapeptide (IV) hydrate, m. 155-60° (EtOH-Et₂O), $[\alpha]_D -70^\circ$ (c 1, MeOH). IV (600 mg.) in 50 ml. 3:2 AcOH-MeOH hydrogenated 24 hrs. over 200 mg. Pd black at slight pressure, the solution filtered and evaporated to dryness, the residue dissolved in 50 ml. H₂O, and the solution lyophilized gave 514 mg. H-Lys-Pro-Pro-Gly-Phe-Ser-Pro-Phe-Arg-OH triacetate salt (1-lysine bradykinin) (V.3AcOH), hydrate, powder. H-Pro-Pro-Gly-Phe-Ser(Ac)-Pro-Phe-Arg(NO₂)-OMe.HBr (2 g.) in 30 ml. DMF treated with 1 ml. Et₃N at 0°, after 5 min. the solution filtered, treated with 1.5 g. Z-Orn(Z)-ONP, kept 2 days at 25°, concentrated to 10 ml., diluted with EtOAc, and the precipitate washed with H₂O, dilute HCl, dilute aqueous NH₃, and H₂O, dried, and recrystd. from MeOH-Et₂O gave 2.1 g. Z-Orn(Z)-Pro-Pro-Gly-Phe-Ser(Ac)-Pro-Phe-Arg(NO₂)-OMe (VI), m. 140-5°, $[\alpha]_D -81.5^\circ$ (c 1, MeOH). VI (2 g.) hydrolyzed with 2N NaOH in MeOH and the solution acidified gave 1.7 g. corresponding dicarbobenzoxy nonapeptide (VII), m. 145-50° (EtOH-Et₂O), $[\alpha]_D -74^\circ$ (c 1, MeOH). VII (500 mg.) hydrogenated 24 hrs. in AcOH-MeOH over Pd black, the solution filtered and evaporated, the residual oil dissolved in 50 ml. H₂O, and the solution lyophilized gave 467 mg. H-Orn-Pro-Pro-Gly-Phe-Ser-Pro-Phe-Arg-OH triacetate salt (1-ornithine bradykinin) (VIII.3AcOH) trihydrate, cream colored solid, $[\alpha]_D -87^\circ$ (c 1, H₂O). I (1.2 g.) decarbobenzoxyated with AcOH-HBr, the resulting HBr salt (1.4 g.) dissolved in 5 ml. DMF, the solution treated at 4° with 0.7 ml. Et₃N, filtered, treated with 0.6 g. Z-Cit-ONP, kept 3 days at 40°, diluted with EtOAc, and washed with aqueous K₂CO₃ and saturated aqueous NaCl, and the slowly solidifying oil (1.2 g.) which separated precipitated from MeOH with Et₂O gave 0.8 g. Me ester of Z-Cit-Pro-Pro-Gly-Phe-Ser-Pro-Phe-Arg(NO₂)-OH (IX), amorphous, which (0.7 g.) was dissolved in 5 ml. MeOH, the solution treated dropwise with 1.4 ml. N NaOH, kept 2.5 hrs. at room temperature, and acidified, and the MeOH evaporated in vacuo to give 0.6 g. IX, amorphous, $[\alpha]_D -48^\circ$ (c 0.5, DMF). IX (500 mg.) hydrogenated in MeOH-AcOH over Pd black, the solution filtered and evaporated in vacuo, the residue dissolved in H₂O, and the solution filtered and lyophilized gave 300 mg. H-Cit-Pro-Pro-Gly-Phe-Ser-Pro-Phe-Arg-OH (1-citrulline bradykinin) (X) acetate, solid, $[\alpha]_D -93^\circ$ (c 1, N AcOH). To 5 g. Z-Glu(γ-Me)-OH in 100 ml. EtOAc was added 2.5 g. p-O₂NC₆H₄OH and 3.6 g. dicyclohexylcarbodiimide, the mixture kept 2 hrs. at 5° and filtered, the filtrate evaporated, and the residual oil precipitate from Et₂O with cyclohexane to give 0.6 g. Z-Glu(γ-Me)-ONP (XI), m. 103-4°. To 2.5 g. H-Pro-Pro-Gly-Phe-Ser(Ac)-Pro-Phe-Arg(NO₂)-OMe in 50 ml. cold (5°) DMF was added 1.3 g. Et₃N, the solution filtered, treated with 1 g. XI, stirred 2 days at 30°, concentrated to 10 ml., and

diluted with EtOAc, and the oil which separated triturated with Et2O, the resulting solid dissolved in 50 ml. MeOH, the solution kept 1 hr. at 25° with 5 ml. N NaOH, diluted with H2O, and treated with 6 ml. 2N HCl, and the solid repptd. twice from MeOH with Et2O to give 1.1 g. Z-Glu-Pro-Pro-Gly-Phe-Ser-Pro-Phe-Arg(NO2)-OH (XII), m. 175-80°, [α]D -61.6° (c 1, MeOH). XII (500mg.) hydrogenated 24 hrs. in 50 ml. 3:2 AcOH-MeOH over Pd black, the solution filtered and evaporated, the residual oil dissolved in 50 ml. H2O, and the solution lyophilized gave 450 mg. H-Glu-Pro-Pro-Gly-Phe-Ser-Pro-Phe-Arg-OH triacetate salt (1-glutamic acid bradykinin) (XIII.3AcOH), tetrahydrate, cream colored solid, [α]D -72.8° (c 1.03, H2O). The 5 peptides appeared homogeneous on paper chromatography in 2:1:1 tert-BuOH AcOH:H2O (solvent A) and 70:5:25 iso-PrOH-concentrated aqueous NH3-H2O (solvent B), with the

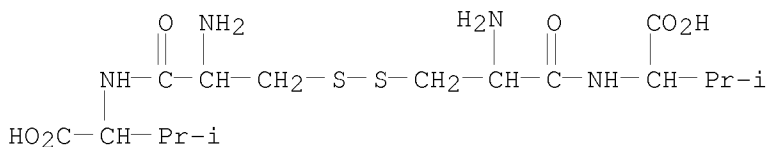
following

results (compound, Rf in A, and Rf in B given): V.3AcOH, 0.71, 0.58, VIII.3AcOH, 0.79, 0.51; II.2AcOH, 0.74, 0.60; XIII.3AcOH, 0.74, 0.66; X acetate, 0.72, 0.61. On paper electrophoresis in acetate buffer (pH 5.6), all the analogs produced single spots except XIII.3AcOH, which showed the presence of a minor, faster moving component. The biol. activity of the bradykinin analogs was as follows (compound, bronchoconstrictor activity in guinea pig, hypotensive activity in guinea pig, hypotensive activity in dog given): bradykinin, 1, 1, 1; II.2AcOH, <1/2000, 1/80, 1/50; V.3AcOH, 1/62, 1/10, 1/30; VIII.3AcOH, 1/1000, 1/50, 1/100; X acetate, <1/2000, 1/250, -; XIII.3AcOH, <1/2000, 1/300, -.

IT 93301-84-9P, Valine, N,N'-L-cystyl-di-
 RL: PREP (Preparation)
 (preparation of)
 RN 93301-84-9 CAPLUS
 CN Valine, N,N'-L-cystyl-di- (7CI) (CA INDEX NAME)



L5 ANSWER 356 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1964:10003 CAPLUS
 DOCUMENT NUMBER: 60:10003
 ORIGINAL REFERENCE NO.: 60:1835g
 TITLE: L-Cystinyl-bis-L-valine
 AUTHOR(S): Roeske, R. W.
 CORPORATE SOURCE: Indiana Univ. School of Med., Indianapolis
 SOURCE: Biochemical Preparations (1963), 10, 43-6
 CODEN: BIPRAP; ISSN: 0067-8686
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 AB cf. CA 54, 3232h.
 IT 93301-84-9P, Valine, N,N'-L-cystyl-di-
 RL: PREP (Preparation)
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 RN 93301-84-9 CAPLUS
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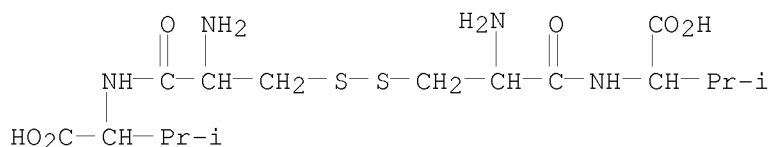


ACCESSION NUMBER: 1964:10002 CAPLUS
 DOCUMENT NUMBER: 60:10002
 ORIGINAL REFERENCE NO.: 60:1835a-g
 TITLE: Synthesis of a tetracosapeptide with the amino acid sequence of a highly active degradation product of β -corticotropin (ACTH) from hog pituitary glands
 AUTHOR(S): Kappeler, H.; Schwyzer, R.
 CORPORATE SOURCE: CIBA Ltd., Basel, Switz.
 SOURCE: Helvetica Chimica Acta (1961), 44(4), 1136-1
 CODEN: HCACAV; ISSN: 0018-019X
 DOCUMENT TYPE: Journal
 LANGUAGE: German

AB The tetracosapeptide H-Ser-Tyr-Ser-Met-Glu-His-Phe-Arg-Try-Gly-Lys-Pro-Val-Gly-Lys-Lys-Arg-Arg-Pro-Val-Lys-Val-Tyr-Pro-OH (I) comprising the amino acid sequence 1-24 of β -corticotropin was synthesized. This peptide was held responsible for the ACTH-activity in acid hydrolyzates of porcine β -corticotropin (Shepherd, et al., CA 51, 2085a), but was never isolated therefrom. The synthesis was made possible by using N-BOC-Lys and Z-Glu(BOC)-OH (II). (All amino acids have the L-configuration; throughout this abstract BOC = Me₈CO₂C; Z = PhCH₂O₂C; PZ = p-PhN:NC₆H₄CH₂O₂C). Z-Glu-OCH₂Ph or Z-Glu-OEt treated with Me₂C:CH₂ under acidic conditions gave Z-Glu(BOC)-OCH₂Ph, m. 46-8°, and Z-Glu(BOC)-OEt, oil, resp., either of which was hydrolyzed to II (dicyclohexylammonium salt m. 139-40°). II and H-His-OMe treated with dieyclohexylcarbodiimide (III) gave Z-Glu(BOC)-His-OMe, which was converted with N₂H₄.H₂O into Z-Glu(BOC)-His-NHNH₂ (IV), m. 140-2°. Z-Phe-Arg(NO₂)-Try-Gly-OMe treated with AcOH-HBr gave H-Phe-Arg(NO₂)-Try-Gly-OMe (V). IV combined with V via the azide method gave Z-Glu(BOC)-His-Phe-Arg(NO₂)-Try-Gly-OMe, m. 175-8°, [α]_D -30.9 (MeOH), λ (EtOH) 272 m μ (ϵ 22,300), hydrolyzed to Z-Glu(BOC)-His-Phe-Arg(NO₂)-Try-Gly-OH, m. 206°, [α]_D -22.2° [HCONMe₂ (DMF)], λ (EtOH) 272 m μ (ϵ 22,900), and this hydrogenated over Pd gave H-Glu(BOC)-His-Phe-Arg-Try-Gly-OH.1/3AcOH (VI), λ 290, 282, and 274 m μ (ϵ 5200, 5900, and 5600). VI condensed with BOC-Ser-Tyr-Met-NHNH₂ via the azide method gave BOC-Ser-Tyr-Ser-Met-Glu(BOC)-His-Phe-Arg(H⁺)-Try-Gly-O- (VII), m. 206°, [α]_D -12.4 \pm 0.8° (DMF). Z-Arg(NO₂)-OH (VIII) combined with H-Pro-OMe via III or the mixed anhydride method gave Z-Arg(NO₂)-Pro-OMe, m. 155-7°, which was decarbobenzoxylated with AcOH-HBr to H-Arg(NO₂)-Pro-OMe, and the latter treated with VIII in the presence of III gave Z-Arg(NO₂)-Arg(NO₂)-Pro-OMe (IX), m. 120° (decomposition), [α]_D -43.9°, λ (EtOH) 271 m μ (ϵ 32,200). IX decarbobenzoxylated with AcOH-HBr and this product treated with Ph₃C-Lys(BOC)-Lys(BOC)-OH in the presence of III gave Ph₃C-Lys(BOC)-Lys(BOC)-Arg(NO₂)-Arg(NO₂)-Pro-OMe, m. 134-6°, λ 271 m μ (32,500), detritylated with 75% AcOH to H-Lys(BOC)-Lys(BOC)-Arg(NO₂)-Arg(NO₂)-Pro-OMe (X). X treated with PZ-Lys(BOC)-Pro-Val-Gly-NHNH₂ by the azide method and the resulting protected nonapeptide Me ester, homogeneous, R_f (silica gel) 0.75 (9:1 dioxane-H₂O) (solvent A), hydrolyzed with NaOH gave PZ-Lys(BOC)-Pro-Val-Gly-Lys(BOC)-Lys(BOC)-Arg(NO₂)-Arg(NO₂)-Pro-OH (XI), R_f (silica gel) 0.30 (solvent A), K = 1.0 (1:1:1 80% MeOH-CCl₄-CHCl₃), λ 272 and 320 m μ (ϵ 35,300 and 21,000). PZ-Val-OH and H-Lys(BOC)-OH by the mixed anhydride method gave PZ-Val-Lys(BOC)-OH, m. 167-9°, λ 322 and 230 m μ (ϵ 23,000 and 13,400), which was treated with H-Val-Tyr-Pro-OCMe₃ in the presence of III to give PZ-Val-Lys(BOC)-Val-Tyr-Pro-OCMe₃, m. 158-9°, λ 322 and 227 m μ (ϵ 21,000 and 20,700), decarbobenzoxylated (Pd and H) to H-Val-Lys(BOC)-Val-Tyr-Pro-OCMe₃ (XII). XII treated with XI by the mixed anhydride method gave, after chromatography on Al₂O₃ with 95:5 CHCl₃-EtOH,

PZ-Lys(BOC)-Pro-Val-Gly-Lys(BOC)-Lys(BOC)-Arg(NO₂)-Arg-(NO₂)-Pro-OH, Rf (silica gel) 0.65 (solvent A), which was hydrogenated over Pd to give H-Lys-Pro-Val-Gly-Lys(BOC)-Lys(BOC)-Arg-Arg-Pro-Val-Lys(BOC)-Val-Tyr-Pro-OCMe₃ (XIII) triacetate, which was lyophilized in dilute HCl to give XIII.3HCl. XIII.3HCl condensed with VII in the presence of III gave the protected tetracosapeptide, which, after brief dissoln. in CF₃CO₂H, yielded quant. I. I was isolated by electrophoresis (pH 1.9, 700 v.) and chromatography on carboxymethylcellulose.

IT 93301-84-9P, Valine, N,N'-L-cystyl-di-
 RL: PREP (Preparation)
 (preparation of)
 RN 93301-84-9 CAPLUS
 CN Valine, N,N'-L-cystyl-di- (7CI) (CA INDEX NAME)



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ACCESSION NUMBER: 1963:486283 CAPLUS

DOCUMENT NUMBER: 59:86283

ORIGINAL REFERENCE NO.: 59:8865h,8866a-h,8867a-h,8868a-h,8869a-h,8870a-c

TITLE: Optical activity and magnetic rotation as contributors to the chemical bonding and electronic configuration of the period I elements. II

AUTHOR(S): Lautsch, W.; Shingte, R.; Rauhut, H.; Heinicke, D.; Vollmanh, D.; Wieczorek, H.; Guenther, D.; Ude, W.

CORPORATE SOURCE: Freie Univ., Berlin

SOURCE: Kolloid.-Z. (1962), 183, 38-57

DOCUMENT TYPE: Journal

LANGUAGE: German

GI For diagram(s), see printed CA Issue.

AB The DD-, DL-, and LL-forms of 1,4-cyclo-phenylalanyldiglycylphenylalanyldiglycyl, of the di-Me and di-benzyl esters of LL-1,4-cycloglutamyldiglycylglutamyldiglycyl, and of DD-1,3-cyclo-D-phenylalanylglycyl-D-phenylalanyltriglycyl were synthesized and the mol. rotations in the optical range of the transition from α -trans-trans to plane polarized electron isomeric β -form, easily observed for all 1,4-sym.-substituted DD- and LL-forms, were studied. The rotational behavior was established with the transition of the tetrahedral center of symmetry in the α -1,4-position. Electronic configuration and structure is correlated through cyclopeptides, with α and β -electrons contributing to the electronic arrangement. Polarization studies of SH-SS oxidation-reduction systems having S³⁵-labeled cyclic penta- and hexapeptide disulfides elucidates peptide chain build-up and identifies metastable, activated states. The semiconductor effects of polypeptides, β -transitions, and α - and β -forms of polar complexes and their 3-dimensional heterocycles are discussed. N-Cbo-glycine (cbo = carbobenzoxy) (I) (10.45 g.) and 6.95 g. p-HOC₆H₄NO₂ (II) in 100 mL. freshly distilled THF (III) was treated with 10.30 g. N,N'-dicyclohexylcarbodiimide (IV) in 25 mL. III and after 6 h. at 25° the insol. N,N'-dicyclohexylurea (V) formed was filtered off and washed with III. The filtrate and washings were treated with 8.25 g. L-phenylalanine in 50 mL. N NaOH solution containing 10.60 g. anhydrous Na₂CO₃. The product was stirred 1 h. at 25°, diluted with 200 mL. H₂O, and acidified with 2N HCl, and the III was removed by vacuum distillation. The product was extracted with 100 mL. EtOAc and the extract treated with 300 mL.

saturated NaHCO₃ solution, filtered, acidified with 2N HCl, and kept 2 h. in an ice-bath to give 12.9 g. N-cbo-glycyl-L-phenylalanine (VI), m. 127-8° (EtOAc-Et₂O-petr. ether), $[\alpha]_{20D} 40 \pm 1^\circ$ (c 2, EtOH). H₂NCH₂CO₂Et.HCl (VII) (5.004 g.) suspended in 150 mL. CH₂Cl₂ and cooled in an ice-bath were treated with 5.4 mL. anhydrous Et₃N with vigorous stirring, then after 15 min. with 10.58 g. VI, and finally after an addnl. 15 min. with 6.18 g. IV in 30 mL. CH₂Cl₂. After 1 h. at 0° and 5 h. at 25° and filtering off the V formed, the product was washed successively with 2N HCl, saturated NaHCO₃ solution, and H₂O and then dried

over

Na₂SO₄ to give, after vacuum distillation 10 g. N-cbo-glycyl-L-phenylalanyl glycine Et ester (VIII), m. 116-18° (EtOAc-petr. ether). VIII (11 g.), dissolved in 150 mL. hot Me₂CO and cooled to 25°, treated with 65 mL. 0.5N NaOH solution, diluted with H₂O after 1 h., acidified with N HCl, and freed from the Me₂CO by distilling in vacuo gave 6.3 g. N-cbo-glycyl-L-phenylalanylglycine (IX), m. 156-7° (EtOAc-Et₂O), $[\alpha]_{20D} -14 \pm 1^\circ$ (c 1.2, EtOH). IX (6.195 g.) in 150 mL. III kept with 2.1 g. II and 3.390 g. IV in 25 mL. III at 25° 6 h. gave, after filtering off the V formed after 30 min. and washing it with III and then concentrating the filtrate in vacuum, a yellow oil, which was triturated with Et₂O to remove the excess IV. After filtering off the white solid precipitated out and washing with Et₂O to remove excess II, 4.8 g. N-cbo-glycyl-L-phenylalanylglycine p-nitrophenyl ester (X), m. 168-9° (aqueous MeOH), $[\alpha]_{20D} -14 \pm 1^\circ$ (c 4, dioxane), resulted. X (5.34 g.), dried in vacuo at 60°, treated 2 h. with 40 mL. N HBr AcOH (protected from moisture by a CaCl₂ tube), the product concentrated in vacuo at 40° following the finish (after 2.5 h.) of the CO₂ evolution, then washed with Et₂O to remove PhCH₂Br (XI) gave on dissolving in a small amount of 1:1 Me₂CO-MeOH and diluting slowly with

absolute

Et₂O, 3.6 g. glycyl-L-phenylalanylglycine p-nitrophenyl ester-HBr salt (XVI), m. 203° (decomposition). XVI (0.200 g.) in 6 mL. HCONMe₂, added through a capillary tube during 6 h. to a mixture of 22 mL. HCONMe₂ and 3 mL. pyridine at 60° and stirred an addnl. hr. before solvent removed in vacuo and the product washed with EtOAc and Et₂O to remove the II, gave, after dissolving the residue in 50 mL. hot H₂O, filtering off the polymeric material, and concentrating the filtrate after warming with a

small

amount of activated charcoal, 0.032 g. cycloglycyl-L-phenylalanyldiglycyl-L-phenylalanylglycyl (XII), m. above 350° (aqueous MeOH), $[\alpha]_{20D} -81 \pm 1^\circ$ (c, HCONMe₂). Analogously, 12.2 g. N-cbo-glycyl-D-phenylalanine, m. 125-6°, $[\alpha]_{20D} -40.2 \pm 1^\circ$ (c 2, EtOH), 9.4 g. N-cbo-glycyl-D-phenylalanylglycine Et ester, m. 117-18°, 6.3 g. N-cbo-glycyl-D-phenylalanylglycine, m. 156-7°, $[\alpha]_{20D} 14.2 \pm 1^\circ$ (c 1.2, EtOH), 4.4 g. (55%) N-cbo glycyl-D-phenylalanylglycine p-nitrophenyl ester, m. 165-6°, $[\alpha]_{20D} 12.4 \pm 1^\circ$ (c 1, HCONMe₂), glycyl-D-phenylalanylglycine p-nitrophenyl ester-HBr (XIII), m. 198° (decomposition), and 0.028 g. cycloglycyl-D-phenylalanyldiglycyl-D-phenylalanylglycine, m. above 350°, $[\alpha]_{20D} 81 \pm 1^\circ$ (c 1, HCONMe₂), $[\alpha]_{20D} 23 \pm 1^\circ$ (c, HCO₂H), were prepared IX (0.413 g.) in 20 mL. III treated with 0.14 mL. anhydrous Et₃N and cooled to -15°, then treated with 0.095 mL. ClCO₂Et (XVII) dropwise below -10°, stirred 0.5 h., then treated with 0.14 mL. Et₃N and subsequently with 0.481 g. glycyl-L-phenylalanylglycine p-nitrophenyl-HBr salt in 3 mL. distilled HCONMe₂, stirred 0.5 h., kept 2 h. at 25°, treated with 50 mL. H₂O and freed of III by vacuum distillation, filtered, and washed with H₂O, gave 0.400 g. N-cbo-glycyl-L-phenylalanyldiglycyl-L-phenylalanylglycine p-nitrophenyl ester (XIV), m. 182-3° (aqueous Me₂CO), $[\alpha]_{20D} -10.9 \pm 1^\circ$ (HCONMe₂). XIV (0.550 g.), vacuum dried 2 h. at 60° over P₂O₅, was treated with 3 mL. 3N HBr-AcOH solution and allowed

to evolve CO₂ 1 h., and then the HBr salt was precipitated by Et₂O addition and freed from XI by decanting with Et₂O. The product was dropped into a mixture of 45 mL. HCONMe₂ and 5 mL. pyridine at 60° during 6 h. with stirring and then worked up as for XII to give 0.075 g. XII: similarly, 0.413 g. IX and 0.481 g. XIII gave 0.550 g. (68%) cbo-glycyl-L-phenylalanyldiglycyl-D-phenylalanylglycine p-nitro-Ph ester (XV), m. 208° (aqueous Me₂CO), [α]_{25D} 0 ± 1° (c 2, HCONMe₂), and 0.550 g. XV gave 0.105 g. cycloglycyl-L-phenylalanyldiglycyl-D-phenylalanylglycyl, m. above 350° (aqueous AcOH), [α]_{25D} 0 ± 1° (c 1, HCONMe₂ or Cl₂CHCO₂H). A solution of 2.66 g. cbo-glycylglycine in 25 mL. HCONMe₂, treated with 1.39 g. II, then with 2.06 g. IV in 5 mL. HCONMe₂, and after 6 h. freed of the precipitated V, stirred 1 h. at 25°, treated with a solution of 1.65 g. D-phenylalanine in 10 mL. N NaOH solution containing 2.12

g.

anhydrous Na₂CO₃, gave, after working up the product as for VIII above, 1.63 g. cbo-diglycyl-D-phenylalanine, m. 144° (aqueous MeOH), [α]_{20D} -16.5 ± 1° (c 2, MeOH). XIII (0.481 g.) and 0.413 g. XIV similarly gave 0.470 g. cbo-diglycyl-D-phenylalanylglycyl-D-phenylalanylglycine p-nitrophenyl ester (XVIII), m. 175° (aqueous Me₂CO), [α]_{25D} 11.4° (c 1, HCONMe₂). XVIII (0.550 g.) as above gave 0.129 g. cyclodiglycyl-D-phenylalanylglycyl-D-phenylalanylglycyl, m. 342-3°, [α]_{25D} 67 ± 1° (c 1, HCONMe₂), [α]_{25D} -15.5 ± 1° (c 1, Cl₂CHCO₂H). XII (0.020 g.) and 12 g. 1,2: 5,6-dibenzanthracene, heated in 10 mL. pyridine to 130-5°, gave the cyclopeptide after 2 h. Cbo-glycine hydrazide (XIX) (7.5 g.) in a mixture of 10 mL. AcOH, 6 mL. HCl, and 150 mL. H₂O shaken vigorously at -5° with a solution of 2.32 g. NaNO₂ in 5 mL. H₂O precipitated the peptide azide immediately. It was dissolved in 250 mL. and added with shaking at 0° to a cold solution of 9.4 g. L-glutamic acid γ-benzyl ester, 11.2 mL. anhydrous Et₃N in 100 mL. freshly-distilled HCONMe₂, and 50 mL. H₂O. After evaporating off the Et₂O below 25°, keeping 24 h. in an ice box and 12 h. at 25°, removing the solvent, and treating with 100 mL. 2N HCl, the product was an oily dipeptide, which was purified by extracting with 100 mL. 2N AcOH, then with 200 mL. 2N NH₄OH, and finally, after acidification, with EtOAc, drying over Na₂SO₄, and vacuum distilling off the EtOAc, to give 9.2 g. cbo-glycyl-L-glutamic acid γ-benzyl ester (XX), m. 99-101° (C₆H₆), [α]_{20D} 9° (c 2.01, EtOH). XX (9 g.) in 50 mL. absolute III, treated with a solution of 3.2 g. VII, 3.22 mL. Et₃N in 50 mL. absolute III, and 25 mL. HCONMe₂, and (with cooling) with 4.65 g. carbodiimide (XXI), gave, after 14 h. in an ice-box, removal of the urea precipitated out by filtration and of the solvent in vacuo, treatment with 150 mL. 50% citric acid, the product extracted with 200 mL. EtOAc, the extract washed with NaHCO₃ and then with H₂O, and the product dried over Na₂SO₄ and freed of EtOAc by vacuum distillation,

8.5

g. (79%) cbo-glycyl-L-glutamylglycine Et benzyl ester (XXII), m. 126-8° (C₆H₆), [α]_{20D} -15.2° (c 1, AcOH). XXII (8 g.) in 50 mL. Me₂CO and 0.68 g. NaOH in 25 mL. H₂O added during 0.5 h., the solution acidified with 6N HCl with cooling, and the Me₂CO distilled in vacuo, gave 4.9 g. cbo-glycyl-L glutamylglycine γ-benzyl ester (XXIII), m. 130-1° (AcOH-H₂O-petr. ether), [α]_{20D} -8° (c 1, MeOH). XXIII (4.5 g.) and 1.45 g. II in 50 mL. III and 2.1 g. XXI in 20 mL. III added at 0° and kept overnight in an ice-bath, the product freed from the urea formed and then concentrated, gave 3.9 g. cbo-glycyl-L-glutamylglycine p-nitrophenyl γ-benzyl ester (XXIV), m. 140-1° (Me₂CO-Et₂O), [α]_{20D} -15° (c 1, MeOH). XX (4.8 g.) in 100 mL. absolute III and 1.57 g. anhydrous Et₃N treated dropwise at -10° with 1.06 mL. XVII and the mixture stirred 40 min., then treated with 2.96 g. p-O₂NC₆H₄O₂CCH₂NH₂.HBr in 5 mL. HCONMe₂ and then immediately with 1.56 mL. Et₃N, gave, after hydrolyzing the product, distilling off the III and working up the product, 2.2 g. XXIV, m. 142-4° (aqueous Me₂CO). XXIV (2 g.) in 3 mL. 1.5N HBr-AcOH solution

(moisture excluded) evolved CO₂ 90 min. and, after precipitation with Et₂O, removal of the solvent in vacuo, and vacuum drying over P₂O₅/KOH, gave 1.45 g. glycyl-L-glutamylglycine p-nitrophenyl γ -benzyl ester HBr salt (XXV). XXV (1 g.) in 25 mL. H₂O, treated at -3° with 25 mL. cold saturated NaHCO₃ solution with vigorous shaking, extracted with 300 mL. EtOAc

at

-10°, and dried over Na₂SO₄ 48 h. at 50°, gave cyclo(glycyl-L-glutamylglycyl-L-glutamylglycyl) γ,γ' -dibenzyl ester (XXVI), m. 289-91° (decomposition) (aqueous MeOH or aqueous HCONMe₂), $[\alpha]_{20D} -30^\circ$ (after 0.5 h.). XXVI (0.070 g.) heated 0.75 h. at 55° with 1.5 mL. 2N HBr in AcOH, precipitated with absolute Et₂O, the product washed and dried in vacuo over KOH-P₂O₅, gave 0.035 g. cyclo(glycyl-L-glutamylglycyl-L-glutamylglycyl), m. 306-8° (decomposition), $[\alpha]_{20D} -16^\circ$ (c 0.970, HCONMe₂). XIX (10 g.), 14.4 g. glutamic acid γ -Me ester, and 12.6 g. Et₃N similarly gave 7.8 g. cbo-glycyl-L-glutamic acid γ -Me ester (XXVIII), m. 114-16° (MeOHC₆H₅-Et₂O), $[\alpha]_{20D} 8^\circ$ (c 2.12, EtOH). XXVIII (7.5 g.) and 5.45 g. glycine p-nitrophenyl ester-HBr gave 2.9 g. cbo-glycyl-L-glutamylglycine p-nitrophenyl γ -Me ester (XXIX), m. 137-9° (aqueous MeOH), $[\alpha]_{20D} 13^\circ$ (c 1, MeOH). XXIX (2.2 g.) with 3 mL. 1.5N HBr-AcOH solution at 25° gave on precipitation with absolute Et₂O 1.5 g. glycyl-L-glutamylglycine p-nitrophenyl γ -Me ester-HBr salt (XXX). XXX (0.9 g.) in 1800 mL. EtOAc gave 0.130 g. cyclo(glycyl-L-glutamylglycyl-L-glutamylglycyl) γ,γ' -di-Me ester (XXXI), m. 312-14° (decomposition), $[\alpha]_{20D} -16^\circ$ (c 0.715, H₂O). N-Cbo-S-benzyl-L-cysteine (XXXII) (3.45 g.) and L-tyrosine Et ester (XXXIII) (2.3 g.) in 50 mL. III, treated with 2.2 g. IV in III, strongly evolved heat 5-6 h. as the urea formed. The product was filtered and the filtrate treated with a few drops of AcOH to destroy the excess XXI. After removal of the solvent under vacuum and long standing in a desiccator, 4.8 g. N-cbo-S-benzyl-L-cysteinyl-L-tyrosine di-Et ester (XXXIV), m. 107-8° (aq. EtOH), $[\alpha]_{20D} 22.8 \pm 1^\circ$ (c 0.68, CHCl₃). XXXII (3.45 g.) in 30 mL. absolute III at 0° was treated with 1.39 mL. Et₃N and 0.96 mL. XVII and kept 20 min. at 0° and then treated with a cold aqueous triethylammonium tyrosinate solution with stirring and allowed to stand 3 h. On bringing the mixture (cooled to 0°) to pH 4 with N HCl, a yellow oil separated and soon crystallized to 1.5 g. N-cbo-S-benzyl-L-cysteinyl-L-tyrosine (XXXV), m. 197-9° (EtOH), $[\alpha]_{20D} -16 \pm 1^\circ$ (c 3.7, pyridine). XXXIV (5.36 g.) in 50 mL. EtOH, treated with 10 mL. 4N NaOH and after 90 min. acidified to pH 4 by N HCl with cooling, gave 4 g. (78%) XXXV, m. 198-9° (EtOH), $[\alpha]_{21D} -18 \pm 1^\circ$ (c 2.7, pyridine). XXIV (9.5 g.) in 80 mL. hot absolute EtOH refluxed 1 h. with 3 mL. H₂NNH₂.H₂O and kept 12 h. at 25° gave N-cbo-S-benzyl-L-cysteinyl-L-tyrosine hydrazide (XXXVI), m. 205-6° (dioxane-H₂O), $[\alpha]_{20D} -19.5 \pm 1^\circ$ (c 1.2, AcOH). A solution of 1.45 g. VII and 1.03 mL. Et₃N in 30 mL. III, after shaking, cooling, and filtering from any Et₃N.HCl formed, was treated with 3.7 g. XXXV in 50 mL. III and then with 1.65 g. IV. After 12 h. at 25° the V formed was filtered off and the yellow filtrate was treated with a drop of AcOH and then evaporated in vacuo to an oily product which was taken up in EtOAc, washed, and dried over Na₂SO₄ to give 1.5 g. N-cbo-S-benzyl-L-cysteinyl-L-tyrosylglycine Et ester (XXXVII), m. 158-60° (petr. ether), $[\alpha]_{22D} -30 \pm 1^\circ$ (c 2, MeOH). XXXVII (14.5 g.) in 200 mL. AcOH, 30 mL. N HCl, and 50 mL. H₂O treated at -5° with an aqueous solution containing 2.31 g. NaNO₂ gave the azide, which after 3 min. was extracted with EtOAc, washed till neutral, and dried over Na₂SO₄, and then treated with a cold solution of 4.63 g. VII in NH₃. CHCl₃ (from which the CHCl₃ had been removed in vacuo) and kept 20 h. at 25°, gave after washing, drying, and concentrating in vacuo 12 g. XXXVIII, m. 164-5°, $[\alpha]_{22D} -30.9 \pm 1^\circ$ (c, 1.28, MeOH). XXXVII (5 g.) in 60 mL. absolute EtOH refluxed 140 min. with 1.5 mL. H₂NNH₂.H₂O and kept 12 h. at 25° gave 4.6 g. N-cbo-S-benzyl-L-cysteinyl-L-tyrosylglycine hydrazide (XXXVIII), m.

215-16° (dioxane-H₂O), $[\alpha]_{22D} -23.2 \pm 1^\circ$. I (8.4 g.) in 125 mL. absolute III was treated with 5.56 mL. Et₃N at 6° and then with 3.82 mL. XVII, keeping the temperature 20 min. at 6°, whereupon the Et₃N.HCl precipitated out. The product was treated with a solution of 8.4 g. XXXIII in 75 mL. absolute III and slowly warmed to 25° and stirred 2-3 h., filtered, and freed of solvent by distillation in vacuo. The residue, taken up in 150 mL. EtOAc, washed with NaHCO₃ solution and 0.5N HCl, dried over Na₂SO₄, and kept 24 h. in an ice-box gave 10.4 g. N-cbo-glycyl-L-tyrosine Et ester (XXXIX), m. 128° (decomposition) (aqueous EtOH), $[\alpha]_{21D} 18.2^\circ$ (c 1.5, MeOH). XXXIII (8.4 g.) and 8.4 g. I in 150 mL. III and 8.4 g. IV in III reacted during 5-6 h. with the evolution of heat and the V formed was filtered off and the solvent distilled in vacuo (after adding a little AcOH to decompose the excess IV). The oily residue was dissolved in a little hot EtOAc and the solution filtered, the EtOAc layer washed with N HCl and saturated NaHCO₃ solution, dried, and precipitated with petr. ether to give 12 g. XXXIX, m. 127-8° (EtOAc), $[\alpha]_{23D} 19 \pm 1^\circ$ (c 1.2, MeOH); 9 g. XXXIX in 60 mL. EtOH, saponified with 4N NaOH 90 min. and acidified to pH 4 with N HCl, and EtOH and unreacted XXXIX removed, and the product evaporated to dryness and taken up in EtOH and precipitated with petr. ether to give 6.2 g. N-cbo-glycyl-L-tyrosine (XL), m. 106-7° (EtOAc), $[\alpha]_{23D} 34.8 \pm 1^\circ$ (c 2.69, MeOH). XXXIX (4.8 g.) in 75 mL. absolute EtOH refluxed 3 h. with 1 mL. anhydrous H₂NNH₂, cooled 24 h. in an ice-box, filtered from the hydrazide formed, washed with Et₂O, and dried in a vacuum desiccator, giving 3.1 g. N-cbo-glycyl-L-tyrosine hydrazide (XLI), m. 199-200° (H₂O), $[\alpha]_{21D} 21 \pm 1^\circ$ (c 1, AcOH). XL (6g.) in 50 mL. III and 5.5 g. S-benzyl-L-cysteine benzyl ester (liberated from the HCl salt in III-H₂O by 2.26 mL. Et₃N) gave with 3.65 g. IV in III 7.9 g. N-cbo-glycyl-L-tyrosyl-S-benzyl-L-cysteine benzyl ester (XLII), m. 149-50° (EtOH-H₂O), $[\alpha]_{21D} -28 \pm 1^\circ$ (c 1.4, AcOH). XLI (5.5 g.) in 75 mL. AcOH, treated with 75 mL. H₂O and 3.5 mL. concentrated HCl and kept below -6° while 1 g. NaNO₂ and 5 mL. H₂O were added. After 3 min. of vigorous shaking in an ice-bath, the azide was precipitated by adding 100 mL. H₂O, and then extracted with 150 mL. cold EtOAc, washed with cold NaHCO₃ solution, dried 0.5 h. over Na₂SO₄, and treated with a solution prepared by suspending 5.0 g. S-benzyl-L-cysteine Et ester-HCl salt in 75 mL. absolute III, shaking with 2.31 mL. Et₃N, and filtering off the Et₃N.HCl formed. After 12 h. at 25° the product was washed with N HCl and saturated NaHCO₃ solution till neutral, and then dried over Na₂SO₄ and precipitated with petr. ether to give 6.0 g. XLII. XLII (3.28 g.) in 100 mL. AcOH was hydrogenated 3 h. at 40-5° over 3.3 g. finely-pulverized PH₄I with vigorous shaking. After decanting from the excess PH₄I, the solution was treated with glacial AcOH till viscous, and then with 150 mL. abs Et₂O under anhydrous conditions. The product, after 2 h. in an ice-box was filtered through sintered glass and stored in a vacuum desiccator to remove the Et₂O. Solution of this product in 100 mL. absolute EtOH and careful precipitation by absolute Et₂O and slow evaporation of the solvent gave 2.5 g. glycyl-L-tyrosyl-S-benzyl-L-cysteine benzyl ester-HI (XLIII), m. 107-10° (decomposition), $[\alpha]_{22D} 14.3^\circ$ (c 0.5, absolute EtOH). XLII (4.4 g.) in 10.5 mL. glacial AcOH and 5.7 mL. HBr-glacial AcOH mixture strongly evolved CO₂; thereafter the AcOH was distilled in vacuo at 35° and the yellow oil resulting was triturated with absolute Et₂O to give 4 g. glycyl-L-tyrosyl-S-benzyl-L-cysteine benzyl ester-HBr salt (XLIV), m. 186° (H₂O), $[\alpha]_{25D} -25.2 \pm 1^\circ$ (c 1.13, EtOH). XLIV (0.500 g.) in EtOH with the calculated amount of NH₄OH gave 0.400 g. glycyl-L-tyrosyl-S-benzyl-L-cysteine benzyl ester (XLV), m. 152-3° (aqueous EtOH), $[\alpha]_{24D} -37.2 \pm 1^\circ$ (c 1.02, MeOH). XXXVIII

(3.0 g.) in 60 mL. glacial AcOH, 10 mL. N HCl, and 40 mL. H₂O at -5° treated with 0.442 g. NaNO₂ in H₂O precipitated the azide, which on taking up in EtOAc, washing till neutral, and drying the product over Na₂SO₄ was then treated 20 h. at 25° with a solution of 3.7 g. XLIV in EtOH and 1 mL. Et₃N at 0°. The product, washed with N HCl and saturated NaHCO₃ solution, then dried over Na₂SO₄, and concentrated in vacuo gave 3.3 g. N-cbo-L-tyrosyl-S-benzyl-L-cysteinyldiglycyl-L-tyrosyl-S-benzyl-L-cysteine benzyl ester (XLVI), m. 172° (absolute EtOH), $[\alpha]_{24D} -28.2 \pm 1^\circ$ (c 1.01, tetrahydrofuran). XLVI (2.5 g.) in liquid NH₃ was intermittently treated with Na with stirring until the blue color remained 10 min. The NH₃ was evaporated in vacuo at 25° during 3-4 h. and the product was dissolved in 100 mL. 50% AcOH and then treated with 0.844 g. AgOAc, immediately precipitating the mercaptide, which was washed 5-6 times with H₂O and reprecipitated without decomposition by HCl. Treatment of the mercaptide (0.900 g. in 200 mL. H₂O) 4 h. with a fast-moving stream of H₂S, then with pyridine until the pH of the mixture reached 6.2, and then with O gas until the nitroprusside test was neg. (24 h.), and then evaporating the product in vacuo to 10 mL. volume, precipitating the product by EtOH-Et₂O mixture, dissolving the crude product in glacial AcOH and reprecipitating with Et₂O gave 0.150 g. (42%) cyclic disulfide of L-cysteinyldiglycyl-L-tyrosyl-L-cysteine, m. 205° (decomposition) (aqueous EtOH), $[\alpha]_{22D} -24 \pm 1^\circ$ (c, HCONMe₂). XXXII (10 g.) and 7 g. freshly-prepared XXXIII in 150 cc. absolute III were treated at 0° with a solution of IV in III and after standing 1 h. at 0° and longer at 25°, the product was acidified with AcOH to decompose the excess IV and the V formed was filtered and the solvent evaporated in vacuo. The residue, taken up in EtOAc, the product treated with N HCl and then with saturated NaHCO₃ solution and dried over Na₂SO₄, filtered, and concentrated in vacuo, gave 13 g. N-cbo-S-benzyl-L-cysteinyldiglycyl-L-tyrosine Et ester (XLVII), m. 109° (EtOAc), $[\alpha]_{20D} 24.0 \pm 1^\circ$ (CHCl₃). XLVII (13 g.) in 10 vols. absolute EtOH refluxed 1 h. with 10 mL. H₂NNH₂ gave 9.9 g. XXXVI; 9.9 g. XXXVI in 100 cc. glacial AcOH treated at 25° with 20 cc. NaCl solution and 35 cc. H₂O, and at 0° with 2 g. NaNO₂ in H₂O, gave the azide, which taken up in 1000 cc. EtOAc and treated with cold NaCl solution and then saturated NaHCO₃ solution and the product dried over Na₂SO₄ and then treated with a freshly-prepared solution of H₂NCH₂CO₂Et in EtOAc, and again washed and dried as before, gave on concentrating in vacuo 9.8 g. XXXVII. XXXVII (9.8 g.), saponified by the calculated amount of NaOH in 150 cc. H₂O, the product diluted with 300 cc. H₂O and acidified to pH 4 gave, after extraction with EtOAc and evaporation of the solvent, 7.5 g. (81%) N-cbo-S-benzyl-L-cysteinyldiglycyl-L-tyrosylglycine (XLVIII), m. 153° (aqueous EtOH), $[\alpha]_{20D} -30 \pm 1^\circ$ (EtOH). I (10 g.) and 10 g. XXXIII in 150 cc. absolute III treated at 0° with 10 g. XXI and freed of the urea formed after 1 h. and of the solvent in vacuo gave 13.5 g. XXXIX. XXXIV (13.5 g.), saponified with the calculated amount of NaOH in 100 cc. H₂O, and the product acidified to pH 4 and extracted with EtOAc then dried over Na₂SO₄, concentrated, and kept several hrs. with petr. ether, gave 10.5 g. XL, m. 109° (petr. ether), $[\alpha]_{20D} 35 \pm 1^\circ$ (MeOH). DL-Cysteine-S₃₅ (0.0643 g. containing 1.34 mc. S₃₅), diluted with 0.4374 g. inactive L-cysteine, in 25 cc. liquid NH₃ was shaken under anhydrous conditions with Na, added in small amounts, until the blue color persisted. The excess Na was destroyed with a little NH₄Cl and 0.41 cc. freshly-distilled PhCH₂Cl was added with shaking and the NH₃ distilled in vacuo and the residue taken up in ice H₂O, brought to pH 6 by concentrated HCl, and filtered with suction. The product was washed with a little H₂O, then dried and filtered through activated charcoal, and crystallized as 0.5995 g. benzylcysteine-S₃₅ (XLIX), m.

213° (H₂O). XLIX (0.600 g.) with 50 cc. absolute dioxane saturated with COCl₂ and the mixture kept at 40-5° under anhydrous conditions, gave, on evaporating the dioxane and storing at 30° in vacuo over NaOH and P₂O₅, S35-benzyl-L-cysteine-N-carboxyanhydride crystals, which were treated with 50 mL. absolute Et₂O saturated with HCl and then shaken with freshly-distilled PhCH₂OH under anhydrous conditions, giving after an hour at 25° crystals, which gave with absolute Et₂O, and after drying over NaOH, 0.8356 g. S35-benzyl-L-cysteine benzyl ester-HCl salt (L), m. 128°. L (0.8356 g.) in 15 cc. absolute III, shaken 10 min. with 0.343 cc. dry Et₃N and then freed of the Et₃N.HCl precipitating out, was treated with a solution of 0.910 g.

XL in 5 cc. III and then 0.55 g. XXI in 5 cc. III was added. The urea formed was filtered off at 0° and the product kept several hrs. at 25°, after which the III was distilled and the oily residue digested with petr. ether. The oil, taken up in EtOAc, washed with N HCl and saturated NaHCO₃ solution, dried over Na₂SO₄, concentrated in vacuo, and precipitated with petr. ether, gave 0.5837 g. (36.1%) N-cbo-glycyl-L-tyrosyl-S35-benzyl-L-cysteine benzyl ester (LI), m. 149° (EtOAc-petr. ether). LI (0.5837 g.) and 0.4163 g. of its radioinactive counterpart, treated with 4 cc. glacial AcOH-HBr mixture (1.5N in HBr) under anhydrous conditions, evolved CO₂ during 1 h. standing; after this, precipitation by 50 cc. absolute EtOH, digestion with 50 cc.

absolute Et₂O, and vacuum drying gave the corresponding HBr salt (LII). XLVIII and LII by the XXI method gave XLVI. LI (0.5837 g.) in 15 cc. absolute III was treated with 0.212 cc. dry Et₃N at 0°, and, after separating off the Et₃N.HBr formed, with 0.873 g. XLVIII and then with 0.314 g. XXI in 5 cc. III at 0°; the product was worked up by filtering off the urea, evaporating the filtrate in vacuo, digesting the oily residue in petr. ether, extracting the product with EtOAc, washing the extract with N HCl, saturated NaHCO₃

solution, and H₂O, drying the extract over Na₂SO₄, concentrating the product in vacuo, and precipitating with petr. ether to give 1.247 g.

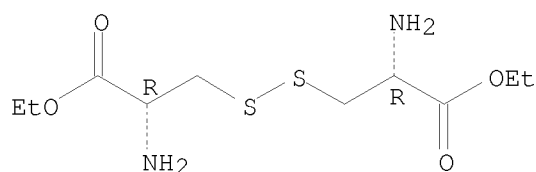
N-cbo-S-benzyl-L-cysteinyl-L-tyrosyldiglycyl-L-tyrosyl-S35-benzyl - L-cysteine benzyl ester (LIII), m. 170° (absolute EtOH). LIII (1.247 g.) in 200 cc. liquid NH₃ was treated with Na in small pieces as above; evaporating off the NH₃ and extracting the residue in 50 cc. 50% AcOH, gave 0.931 g.

(91.7%) Ag mercaptide on adding the saturated AgOAc solution H₂S was passed for several hrs. into a solution of 0.3772 g. LIII in 100 cc. twice-distilled H₂O; the Ag₂S precipitating out was filtered off, and the filtrate diluted to 5 l. volume

with twice-distilled H₂O, then swept with N to remove all H₂S, acidified to pH 6.2, swept with air for 24 h. to form the cyclic disulfide, and the product concentrated to 100 cc. over a bath at 30-5°, refiltered, precipitated with EtOH-Et₂O, and fractionally crystallized from HCO-NMe₂-Et₂O solution. Combining the chromatog. uniform fractions and drying the product gave 0.1547 g. cyclic disulfide of L-cysteinyl-L-tyrosyldiglycyl-L-tyrosyl-S35-L-cysteine, activity 16.6 μc. (by oxidation to Ba³⁵SO₄), R_f value 0.66 (BuOH-AcOH-H₂O), readily soluble in aqueous EtOH and HCONMe₂, difficultly soluble in H₂O.

IT 583-89-1, Cystine, diethyl ester
(reaction with cyclic disulfide peptides)
RN 583-89-1 CAPLUS
CN L-Cystine, 1,1'-diethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 359 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1963:470338 CAPLUS

DOCUMENT NUMBER: 59:70338

ORIGINAL REFERENCE NO.: 59:13093d-e

TITLE: Gas chromatography of the methyl esters of the amino acids as the free base and by dissociation of their acid salts

AUTHOR(S): Nicholls, C. H.; Makisumi, Satoru; Saroff, H. A.

CORPORATE SOURCE: Natl. Inst. of Arthritis & Metab. Diseases, Bethesda, MD

SOURCE: Journal of Chromatography (1963), 11(3), 327-30

CODEN: JOCRAM; ISSN: 0021-9673

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

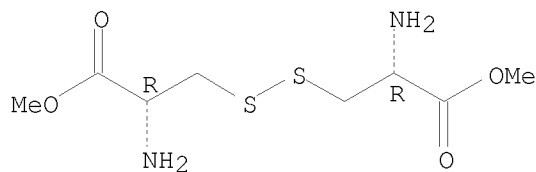
AB cf. CA 58, 4801f. The free base form of the Me esters of amino acids are formed by treating a 0.25M MeOH solution of the chloride salt with 20% of its volume of anhydrous Dowex 1 (OH⁻ form). The free base formed is stable for at least 18-24 h. Dissociation of the acetate salts of the amino acids into the free base and AcOH occurred in gas-chromatog. columns (2% neopentyl glycol succinate on Fluoropak 80) at 120-200°. The derivs. of all of the common amino acids except histidine, tyrosine, and tryptophan may be chromatographed by a combination of the use of the amino acid esters as the free base and by dissociation of their acid salts.

IT 32854-09-4, Cystine, methyl ester, hydrochloride
(chromatog. of)

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 360 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1963:456172 CAPLUS

DOCUMENT NUMBER: 59:56172

ORIGINAL REFERENCE NO.: 59:10364e-f

TITLE: III

AUTHOR(S): Muramatsu, M.; Hirohata, R.; Kanda, Y.; Shibuya, S.

CORPORATE SOURCE: Med. High School, Ube, Japan

SOURCE: Hoppe-Seyler's Zeitschrift fuer Physiologische Chemie (1963), 332, 263-70

CODEN: HSZPAZ; ISSN: 0018-4888

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

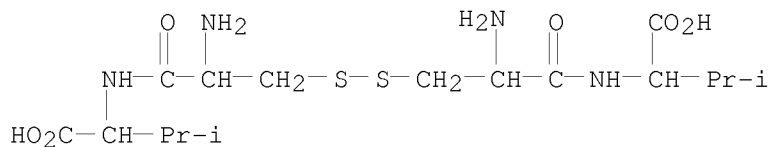
AB In this study the rates of hydrolysis of X-glycine-type dipeptides were measured in the three concns. of HCl. The k-values for hydrolysis of this series were about 1/3 smaller than those for the corresponding Gly-X type, but the rates were also influenced by steric factors related to the X-amino acid. With few exceptions, the relative position of a particular amino acid in the series, with respect to its effect on the rate constant, was the same regardless of whether the peptide was of the type Gly-X or X-Gly.

IT 93301-84-9 94376-29-1

(Derived from data in the 7th Collective Formula Index (1962-1966))

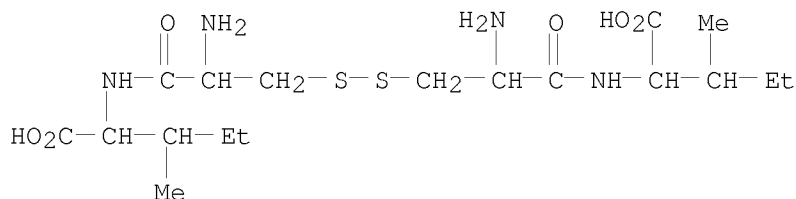
RN 93301-84-9 CAPLUS

CN Valine, N,N'-L-cystyl-di- (7CI) (CA INDEX NAME)



RN 94376-29-1 CAPLUS

CN Isoleucine, N,N'-L-cystyl-di- (7CI) (CA INDEX NAME)

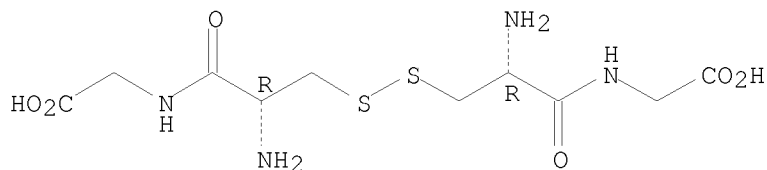


IT 7729-20-6, Glycine, N,N'-L-cystyl-di-
(hydrolysis by acid)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1-1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 361 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1963:456171 CAPLUS

DOCUMENT NUMBER: 59:56171

ORIGINAL REFERENCE NO.: 59:10364d-e

TITLE: The rate of acid hydrolysis of dipeptides. II

AUTHOR(S): Muramatsu, M.; Hirohata, R.; Kanda, V.; Shibuya, S.;
Fujii, S.; Nagamatsu, A.; Ono, T.

CORPORATE SOURCE: Kyushu Univ., Fukuoka

SOURCE: Hoppe-Seyler's Zeitschrift fuer Physiologische Chemie
(1963), 332, 256-62

CODEN: HSZPAZ; ISSN: 0018-4888

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

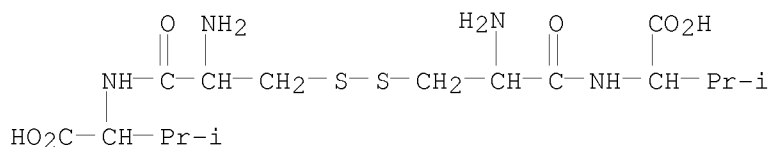
AB cf. CA 52, 470d. The rates of hydrolysis of glycyl-X-type dipeptides were measured in 1.5N, 6N, and concentrated HCl at 100° and the rate consts. (k) for hydrolysis given. The k-values for Gly-L-Leu, Gly-L-Pro, and Gly-L-Ile (loc. cit.) were corrected in this study. The hydrolysis of all the dipeptides except Gly-L-Lys, N, N1-diGly-L-Cys, and Gly-L-Pro followed a monomol. reaction type for the first 4-6 hrs. The relation of steric and other factors on the rate is discussed for the X-amino acids studied. The rate is strongly influenced by the steric configuration around the X-amino acid.

IT 93301-84-9 94376-29-1

(Derived from data in the 7th Collective Formula Index (1962-1966))

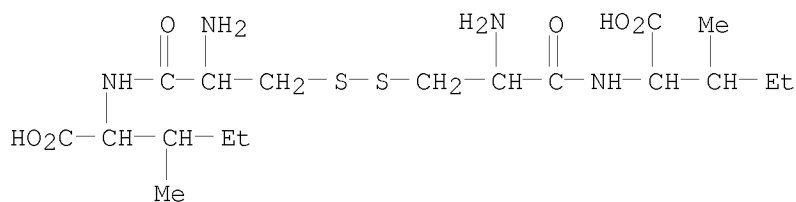
RN 93301-84-9 CAPLUS

CN Valine, N,N'-L-cystyl-di- (7CI) (CA INDEX NAME)



RN 94376-29-1 CAPLUS

CN Isoleucine, N,N'-L-cystyl-di- (7CI) (CA INDEX NAME)

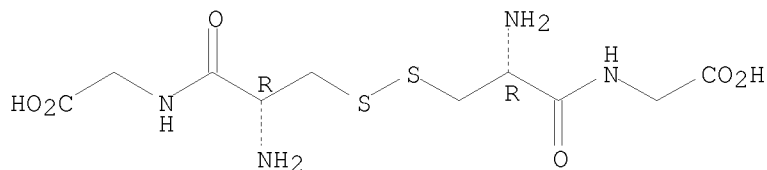


IT 7729-20-6, Glycine, N,N'-L-cystyl-di-
(hydrolysis by acid)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 362 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1963:448687 CAPLUS

DOCUMENT NUMBER: 59:48687

ORIGINAL REFERENCE NO.: 59:8865e-h

TITLE: Optical activity and magnetic rotation as contributors to the chemical bonding and electronic configuration of the period I elements. I

AUTHOR(S): Lautsch, I. W.; Shingte, R.; Rauhut, H.; Heinicke, D.; Vollmanh, D.; Wieczorek, H.; Guenther, D.; Ude, W.

CORPORATE SOURCE: Freie Univ., Berlin

SOURCE: Kolloid-Zeitschrift (1962), 181, 114-31

DOCUMENT TYPE: Journal

LANGUAGE: German

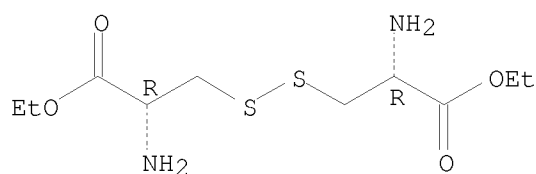
AB In connection with an investigation of the optical and catalytic properties of α - and β -redoxase models of polypeptides, the structure of cyclic peptides and peptide disulfide was studied because of their roles in the formation of closed ring compds. The cyclic disulfides reacted with cystine di-Et esters through the peptide linkages, implying that cystine di-Et esters were involved in the self-condensation to polycystine. Paper chromatog. and radiometry indicated that no significant S interchange had occurred, but that the cystine-S35 di-Et ester had reacted at the peptide linkages with the cyclic disulfide. The reaction occurred in acid media (via cyclic disulfide cations) only to a very limited extent. At approx. the isoelec. point (pH 5) and using a long reaction time (3 days) reactions which reconstructed the peptide mol. set in and a strong tendency to form ninhydrin-neg. reaction products, which were cyclized to cyclopeptides or other rearranged products. The investigation of the polarization effects, exerted through the neutral salt form of the anions interchanged by cleavage of C-halogen bonds of α -halogenated fatty acids, indicated that the supposed amino acid-polypeptide and triosehexose equilibrium involved only a reversible coupling of peptide units under the influence of redox catalysts, in which the prosthetic groups of cytochromes played the principal role. Especially noteworthy was the synthesis and degradation of peptide linkages and the exchange of radioactivity in the peptide units with the aid of the polarization catalysts, the accelerated S35-nuclear disintegrations, and the nuclear isomerism. The amino acid exchange reactions in cyclic disulfides in the direction of S35 cysteine presents a peptide synthesis which proceeds auto-catalytically, the SH-SS system working as a polarization catalyst and the process proceeding rapidly near the isoelec. point. Investigation of the S35-cyclic disulfide-L-cystine di-Et ester system indicated (by pH values of 5 and 6) that the latter unlabeled ester had taken no S35 from the labeled cyclic disulfide.

IT 583-89-1, Cystine, diethyl ester
(reaction with cyclic disulfide peptides)

RN 583-89-1 CAPLUS

CN L-Cystine, 1,1'-diethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 363 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1963:85634 CAPLUS

DOCUMENT NUMBER: 58:85634

ORIGINAL REFERENCE NO.: 58:9227e-f

TITLE: Oxidative cleavage of tyrosyl peptide bonds. IV. The oxidative degradation of ribonuclease and of S-carboxymethyl-ribonuclease

AUTHOR(S): Wilson, John G.; Cohen, Louis A.

CORPORATE SOURCE: Natl. Inst. of Health, Bethesda, MD

SOURCE: J. Am. Chem. Soc. (1963), 85, 564-7

DOCUMENT TYPE: Journal

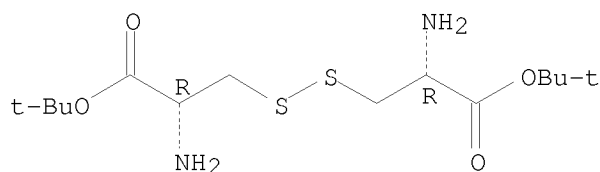
LANGUAGE: Unavailable

AB Oxidative cleavage of RNase with N-bromosuccinimide split 5 of the 6 tyrosyl peptide bonds present; the tyrosyl-cysteic acid bond (from

disulfide oxidation) failed to cleave. However, all 6 amide bonds were split in S-carboxymethylribonuclease, in which oxidation of S proceeded only to the sulfone stage. It was suggested that the highly acidic sulfonic acid residue, when constrained in a complex matrix, may inhibit cleavage by protonation of an amide N. All amino terminals liberated agreed with the published sequence of the enzyme. A limited correlation between tertiary structure and rate of cleavage or order of release of amino acids was indicated.

IT 38261-78-8P, Cystine, di-tert-butyl ester, dihydrochloride
 RL: PREP (Preparation)
 (preparation of)
 RN 38261-78-8 CAPLUS
 CN L-Cystine, 1,1'-bis(1,1-dimethylethyl) ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

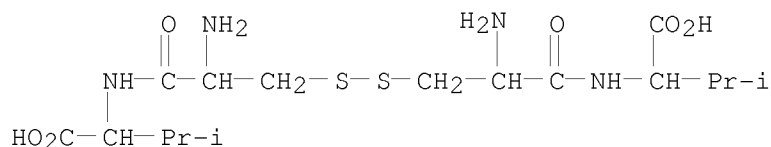


● 2 HCl

L5 ANSWER 364 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1963:73767 CAPLUS
 DOCUMENT NUMBER: 58:73767
 ORIGINAL REFERENCE NO.: 58:12665h
 TITLE: Preparation of tert-butyl esters of free amino acids
 AUTHOR(S): Roeske, Roger
 CORPORATE SOURCE: Indiana Univ. School of Med., Indianapolis
 SOURCE: Journal of Organic Chemistry (1963), 28, 1251-3
 CODEN: JOCEAH; ISSN: 0022-3263
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 OTHER SOURCE(S): CASREACT 58:73767

AB Most amino acids dissolve in dioxane-H2SO4 mixts. and react with isobutene to form the tert-butyl esters in 60-75% yield. The monobenzyl esters of aspartic and glutamic acid form benzyl-tert-butyl esters, which can be hydrogenated to the mono tert-butyl esters. β -tert-Butyl L-aspartate and γ -butyl L-glutamate gave the N-carboxyanhydrides when treated with phosgene.

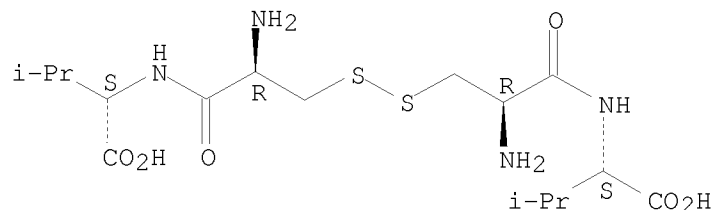
IT 93301-84-9
 (Derived from data in the 7th Collective Formula Index (1962-1966))
 RN 93301-84-9 CAPLUS
 CN Valine, N,N'-L-cystyldi- (7CI) (CA INDEX NAME)



IT 21141-84-4P, Valine, N,N'-L-cystyldi-, L-
 RL: PREP (Preparation)

(preparation of)
 RN 21141-84-4 CAPLUS
 CN L-Valine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 365 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1963:73766 CAPLUS

DOCUMENT NUMBER: 58:73766

ORIGINAL REFERENCE NO.: 58:12665e-h

TITLE: Stereochemical configuration of 5-hydroxylysine and synthesis of (+)-1,5-diamino-2-hydroxypentane (hydroxycadaverine)

AUTHOR(S): Lindstedt, Sven; Lindstedt, Goran

CORPORATE SOURCE: Karolinska Inst., Stockholm

SOURCE: Journal of Organic Chemistry (1963), 28, 251-2

CODEN: JOCEAH; ISSN: 0022-3263

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

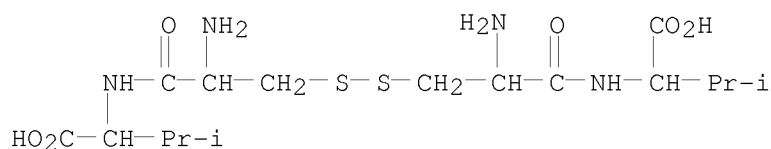
AB cf. CA 57, 15223i. L-Glutamic acid was deaminated with HNO₂ and the acid isolated as the Ba salt. Ba L-2-hydroxyglutarate (7 g.) in 40 ml. H₂O passed through a short column of Dowex 50 -X 4 (50-100 mesh, H⁺ form) and the column washed with H₂O, the effluent evaporated at 30° in vacuo and the residual oil (3.5 g.) desiccated 16 hrs. in vacuo, taken up in 20 ml. ice-cold MeOH and esterified with CH₂N₂ gave 4.1 g. di-Me 2-hydroxyglutarate. The ester (3.5 g.) taken up in 20 ml. dry NaOH and the solution saturated with NH₃ at 0° kept 24 hrs. at 20° and filtered gave 2.7 g. L(-)-2-hydroxyglutaric acid diamide (I), m. 181-2°, [α]_D²⁵ -33° (c 1.48, H₂O). I (0.5 g.) extracted in 20 hrs. by 50 ml. refluxing diglyme (dried over CaH₂ and redistd. from LiAlH₄) containing 1.0 g. LiAlH₄ and the cooled mixture decomposed by 3 ml. H₂O followed by 3 ml. 1.0N NaOH, the solution adjusted to pH 3 and the residue on evaporation put onto a column of Dowex 50 -X 4 (200-400 mesh; 54 + 1.2 cm. in 1.0Ngr; HCl) and eluted with 200 ml. 1.0N HCl followed by 3N HCl, the effluent evaporated in vacuo and the salt recrystd. twice from alc. gave 0.08 g. (+)-1,5-diamino-2-hydroxypentane-2HCl (II), m. 166-7°, [α]_D²⁵ 11.1° (c 2.0, H₂O). II (0.09 g.) in 5 ml. 1.0N NaOH stirred with portionwise addition of 0.4 ml. BzCl and the mixture refrigerated overnight gave (+)-1,5-dibenzamido-2-hydroxypentane, m. 130-2° (EtOAc), [α]_D²⁵ 23.6° (c 0.84, C₅H₅N), identical in m.p. and infrared spectrum with the levo compound, [α]_D²⁵ -21.6°, obtained after benzylation of the amine formed by decarboxylation of 5-hydroxy-L-lysine with bacterial decarboxylase. The results confirmed the erythro configuration of natural 5-hydroxylysine deduced by Witkop (CA 51, 8005a) from rotational measurements.

IT 93301-84-9

(Derived from data in the 7th Collective Formula Index (1962-1966))

RN 93301-84-9 CAPLUS

CN Valine, N,N'-L-cystyl-di- (7CI) (CA INDEX NAME)



L5 ANSWER 366 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1963:60365 CAPLUS

DOCUMENT NUMBER: 58:60365

ORIGINAL REFERENCE NO.: 58:10364e-g

TITLE: Terephthalic acid diglycidyl esters and their resinous condensation products

INVENTOR(S): Raecke, Bernhard; Kohler, Rudolf; Pietsch, Helmut

PATENT ASSIGNEE(S): Henkel & Cie. G.m.b.H.

SOURCE: 6 pp.; Continuation-in-part of U.S. 2,865,897 (see Brit. 735,001, CA 50, 8733i)

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3073804		19630115	US 1960-75650	19601115
PRIORITY APPLN. INFO.:			US	19601115

AB The esters of the title can be obtained in crystalline or liquid form. They are

prepared by the reaction of terephthalic acid chlorides with glycidide (I) in the presence of organic bases followed by distillation to remove the volatile matter. They can be used for the preparation of resinous compns. useful as adhesives and molding resins that can be stored indefinitely and readily harden upon heating. Thus, during 1 h., 206 g. terephthalic acid dichloride (II) is added to a mixture of 150 g. I, 225 g. Et3N, and 600 cc. PhMe with cooling and stirring. Stirring is continued for another hr. and the precipitated Et3N.HCl is filtered and washed with PhMe to give 290 g. dry salt. PhMe is distilled at a bath temperature up to 160° and 10 mm. The 230 g. of residue has a saponification number of 294. Further distillation at a bath temperature

of 190° and 0.7 mm. gave 220 g. of a dark, viscous resin having a saponification number of 420. A solution of 20.6 g. II in 100 cc. C6H6 is added

dropwise to a mixture of 15 g. I and 23 g. Et3N at 0-5° in 1.5 h. while cooling and stirring. Stirring is continued for another 2 h. while the temperature is allowed to increase to room temperature The precipitated Et3N.HCl (29 g.)

is filtered and the C6H6 distilled in vacuo until the crystals start to precipitate

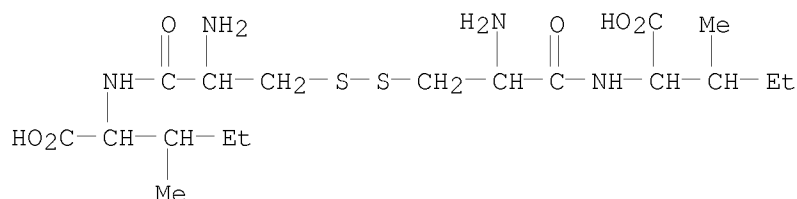
Crystallization is enhanced by the addition of petr. ether (III). Recrystn. from a

mixture of equal parts III and C6H6 gives the diglycidyl ester of terephthalic acid, m. 108-9°.

IT 94376-29-1, Isoleucine, N,N'-L-cystyl-di-, DL- (hydrolysis by acid)

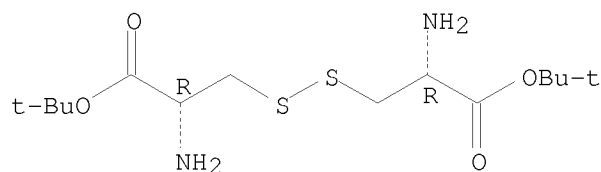
RN 94376-29-1 CAPLUS

CN Isoleucine, N,N'-L-cystyl-di- (7CI) (CA INDEX NAME)



L5 ANSWER 367 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1963:53709 CAPLUS
 DOCUMENT NUMBER: 58:53709
 ORIGINAL REFERENCE NO.: 58:9227d-e
 TITLE: Oxidative cleavage of tyrosyl peptide bonds. III. Synthesis and cleavage of peptides containing sulfur moieties
 AUTHOR(S): Wilson, John G.; Cohen, Louis A.
 CORPORATE SOURCE: Natl. Inst. of Health, Bethesda, MD
 SOURCE: Journal of the American Chemical Society (1963), 85, 560-4
 CODEN: JACSAT; ISSN: 0002-7863
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 OTHER SOURCE(S): CASREACT 58:53709
 AB cf. CA 55, 25779g. A series of N-acylated tyrosyl-S-alkylcysteine dipeptides underwent facile oxidative cleavage with N-bromosuccinimide. Similar cleavage occurred, without difficulty, in simple tyrosylcysteine peptides. Evidence was presented for intramolecularly-catalyzed ester hydrolysis in β -sulfoalanine tert-Bu ester. The preparation of cystine di-tert-Bu ester was described.
 IT 38261-78-8P, Cystine, di-tert-butyl ester, dihydrochloride
 RL: PREP (Preparation)
 (preparation of)
 RN 38261-78-8 CAPLUS
 CN L-Cystine, 1,1'-bis(1,1-dimethylethyl) ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



● 2 HCl

L5 ANSWER 368 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1963:34395 CAPLUS
 DOCUMENT NUMBER: 58:34395
 ORIGINAL REFERENCE NO.: 58:5915g-h, 5916a
 TITLE: Effects of glutathione on protein sulfhydryl groups in rat-liver homogenates
 AUTHOR(S): Jocelyn, P. C.
 CORPORATE SOURCE: Univ. Edinburgh, UK
 SOURCE: Biochemical Journal (1962), 85, 480-5
 CODEN: BIJOAK; ISSN: 0264-6021

DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

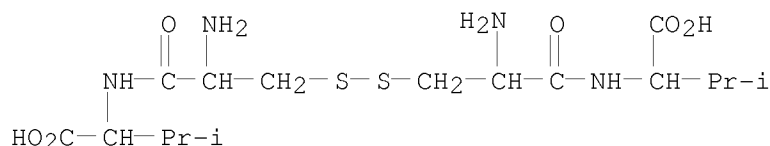
AB Nonprotein SH groups were estimated as follows: each sample was analyzed by means of an automatic analyzer and aspirated at a flow rate of 0.42 ml./min. mixed with weak pH 6.0 buffer (1.2 ml./min.) and segmented with air (0.8 ml./min.). It was dialyzed (D-30 cellophane) against H₂O at 1.6 ml./min. and 35° also segmented with air (0.8 ml./ml.). The water, containing nonprotein SH, was then mixed with bis(5-carboxy-4-nitrophenyl) disulfide (mM in strong pH 7.6 buffer; 0.2 ml./min.); after passing through a 2 min. delay coil, the color developed was scanned in a colorimeter unit in a 6-mm. flow cell with a 410 mμ filter. Total SH content was determined after the sample was mixed manually (0.6 ml. of sample) with the reagent containing ethylenediaminetetraacetate and allowed to stand for 1-1.5 hrs. at 5°. This method was applied to mixts. of bovine serum albumin and glutathione and to protein SH groups and nonprotein SH groups of rat-liver homogenates. Some of the protein SH groups in rat-liver homogenates are autoxidizable at 37° and this oxidation is reduced or prevented by glutathione to an extent dependent upon its initial concentration. Reduced nicotinamide adenine dinucleotide phosphate does not increase protein SH groups in rat-liver homogenates.

IT 93301-84-9

(Derived from data in the 7th Collective Formula Index (1962-1966))

RN 93301-84-9 CAPLUS

CN Valine, N,N'-L-cystyl-di- (7CI) (CA INDEX NAME)



L5 ANSWER 369 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1963:34394 CAPLUS

DOCUMENT NUMBER: 58:34394

ORIGINAL REFERENCE NO.: 58:5915e-g

TITLE: Reduction of serum albumin, insulin, and some simple disulfides by glutathione

AUTHOR(S): R. Hird, F. J.

CORPORATE SOURCE: Univ. Oxford, UK

SOURCE: Biochemical Journal (1962), 85, 320-6
CODEN: BIJOAK; ISSN: 0264-6021

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

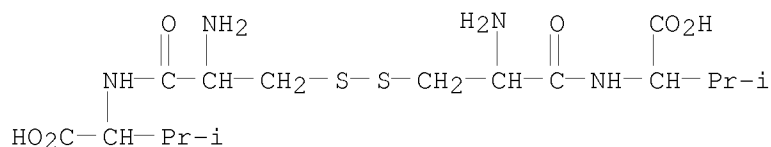
AB The reduction of S-S bonds in bovine serum albumin, insulin, and a number of simple disulfides by physiol. concns. of glutathione (GSH) has been investigated. GSH reductase and reduced nicotinamide-adenine dinucleotide phosphate (NADPH₂) were used to follow the reactions spectrophotometrically according to the following reactions: XSSX + GSH → XSSG + XSH; XSSG + GSH → XSH + GSSG; GSSG + NADPH₂ → 2GSH + NADP. Serum albumin has approx. 50% of rapidly reducible S-S bonds/mol. of protein. The remaining S-S bonds of the native protein and also those of insulin are only slowly reduced by GSH. On the hydrolysis of less than 10% of the peptide bonds of these proteins by chymotrypsin or trypsin or both there is a marked increase in the rate of reduction of the S-S bonds. Reduction of simple S-S bonds with a nearby neg. charge proceeds more slowly than that of other types (GSSG, L-cystinylbis-L-valine, bis-α-L-glutamyl-L-cystinylbis-L-valine, bisacetyl-L-cystine diethyl ester, cystamine). The factors concerned in the reduction of S-S bonds of proteins by GSH are discussed.

IT 93301-84-9

(Derived from data in the 7th Collective Formula Index (1962-1966))

RN 93301-84-9 CAPLUS

CN Valine, N,N'-L-cystyl-di- (7CI) (CA INDEX NAME)

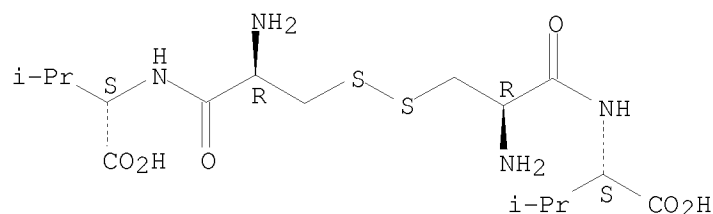


IT 21141-84-4, Valine, N,N'-L-cystyl-di-, L-
(reduction by glutathione)

RN 21141-84-4 CAPLUS

CN L-Valine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 370 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1963:33669 CAPLUS

DOCUMENT NUMBER: 58:33669

ORIGINAL REFERENCE NO.: 58:5782c-h,5783a-f

TITLE: Cysteine and cystine peptides. I. New S-protecting groups for cysteine

AUTHOR(S): Zervas, Leonidas; Photaki, Iphigenia

CORPORATE SOURCE: Univ., Athens, Greece

SOURCE: Journal of the American Chemical Society (1962), 84, 3887-97

CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

OTHER SOURCE(S): CASREACT 58:33669

AB The chemical characteristics of S-trityl- and S-diphenylmethyl-L-cysteine, and of a number of their derivs. have been investigated in view of their use in the synthesis of peptides. Preparation of S-trityl-L-Cysteine (I) or S-diphenylmethyl-L-cysteine (II) went smoothly from L-cysteine-HCl (III) and Ph3CCl or Ph2CHCl, resp., in HCONMe2 (IV). In the presence of amines, the trityl group was also introduced on the NH2 group. Removal of the S-trityl group could be accomplished by cold 0.2-1N HBr in HOAc, or by boiling CF3CO2H, or by an equivalent amount of AgNO3 and C5H5N in alc. at 0°. The S-diphenylmethyl group could be removed by warm 2N HBr in HOAc (in low yield), or by boiling CF3CO2H, but not by AgNO3. III could best be purified by recrystn. of its p-MeC6H4SO3H (IIIa) salt (V) from H2O. A number of amino- and carboxyl-protected derivs. of I and II were prepared, and also some di- and tripeptides and disulfides. Com. L-cystine reduced with Zn dust and concentrated HCl in the presence of IIIa, gave 75-90% yield of V, m. 223-5°, [α]_{23D} 4.2° (C 10, IV). I was prepared from V or III with Ph3CCl in IV in 2 days at room temperature, yield 75%, m. 181-2°, [α]_{24d} 108° (c 1.45, 0.04N HCl in EtOH);

[α]25D 16.2° (c 2, 0.1N NaOH). In the same way, II was prepared with Ph₂CHCl in IV at 80-90° 2 h., yield 47%, m. 202-3°, [α]25D 16.9° (c 2.9, 0.1N HCl in EtOH). Removal of the trityl group by refluxing with CF₃CO₂H gave 95% yield after 30 min.; by NHB_r in HOAc at 8-10°, 95% yield in 3 min.; by anhydrous HCl in IV at 0°, 53% yield after 30 min. Removal of the diphenylmethylethyl group by Na in liquid NH₃, 97% yield; by refluxing in CF₃CO₂H and PhOH, complete, in 20 min.; by hot 2N HBr in HOAc, only 10% yield after 1 h. N-trityl derivs. of I and II were prepared with Ph₃CCl in the presence of Et₃NH in CHCl₃ at 4-6°. The following were prepared: N-trityl-S-diphenylmethylethyl-L-cysteine from II in 85% yield, m. 167-8°, [α]27D 42.2° (c 2, CHCl₃); N,S-ditrityl-L-cysteine (VI) from I in 75% or from III in 70%, yield, m. 192-3°, [α]29D 68.6° (c 2, CHCl₃). N-Detritylation of VI with HOAc and H₂O at 100° gave 92% yield in 2 min. N-carbobenzoxy derivs. of I and II were prepared either by treating the S-protected compound with PhCH₂OCOC₂Cl in the cold in N NaOH or 1:1 dioxane-N NaOH, or by reducing dicarbobenzoxy-L-Cystine with Zn dust and concentrated HCl in MeOH, followed by introduction of the S-protecting group as above. N-Carbobenzoxy-S-diphenylmethylethyl-L-Cysteine (VII) was prepared from II in 96% yield, and in 30% yield by the cystine route, m. 102-3°, [α]20D -30.4° (c 2, EtOH); cyclohexylammonium salt m. 142-3°, [α]30D -3.8° (c 2, MeOH). N-Decarbobenzoylation proceeded to 85% yield at room temperature with 2N HBr

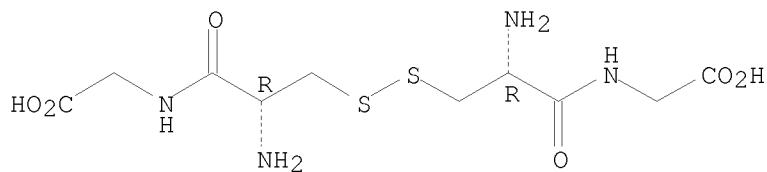
in

HOAc in 20 min. If this treatment was followed by refluxing with PhOH and CF₃CO₂H for 20 min., the S-diphenylmethylethyl group was also completely removed. N-Carbobenzoxy-S-trityl-L-cysteine (VIII) diethylammonium salt was obtained from I in 76%, and from cystine in 55% yield, m. 169°, [α]29D 21.4° (c 5, MeOH); 0.2N HBr in HOAc effected 75% S-detritylation with little or no N-decarbonylation in 15 min. N-Formyl derivs. of I and II were prepared with HCO₂H and Ac₂O at 5-10°; N-formyl-S-trityl-L-cysteine (IX) was obtained in 91% yield, m. 168°, [α]27D 77.4° (c 2.5, EtOH); diethylammonium salt m. 165°, [α]28D 68.6° (c 2, EtOH). N-Formyl-S-diphenylmethylethyl-L-cysteine was obtained in 91% yield, m. 147-8°, [α]27D 18.1° (c 2, EtOH); cyclohexylammonium salt in. 170-2°, [α]29D 29.9° (c 1, EtOH). The Me ester of II, m. 162°, [α]29D 5.5° (c 3, MeOH), was prepared from L-cysteine Me ester-HCl (X) and P₂CHCl in 33% yield; from N,N'-dicarbobenzoxy-L-cystine di-Me ester by reduction with Zn dust, treatment with Ph₂CHCl in the presence of Et₃N, and finally treatment with HBr in Et₂O in 25% yield, and also from II and MeOH by the SOCl₂ method in 88% yield. N-Benzoyl-S-trityl-L-cysteine Me ester, m. 132-3°, [α]30D -11.4° (c 3, CHCl₃), was prepared from X and Ph₃CCl in IV in 30% yield, by benzoylation of S-trityl-L-cysteine Me ester in 85% yield, and by reduction of N,N'-dibenzoyl-L-cystine di-Me ester with Zn dust and subsequent tritylation in 72% yield. Detritylation of the above compound with AgNO₃ and C₅H₅N in MeOH gave 95% yield, whereas anhydrous HCl gave only 50% in 30 min. N,S-ditrityl-L-cysteine Me ester was obtained as an oil from X, gave N-trityl-L-cysteine Me ester (XI) upon treatment first with AgNO₃ (yield 95%), then with HCl. XI was oxidized in 60% yield to N,N'-ditrityl-L-cystine di-Me ester, m. 144-5°, by aeration or by iodine in the presence of NaOAc. N-Formyl-S-trityl-L-cysteinylglycine Et ester (XII) was prepared in 85% yield from glycine Et ester-HCl (XIII) and IX with N,N'-dicyclohexylcarbodiimide (XIV) in CHCl₃ in the presence of Et₃N, m. 78-9°, [α]25D 30.3° (c 4, EtOH). N-Carbobenzoxy-S-trityl-L-cysteinylglycine Et ester (XV) was prepared in the same way, but VIII was used instead of IX, yield 71%, m. 112-13°, [α]28D 9.5° (c 3, EtOH). Addition of AgNO₃ and C₅H₅N and warming gave Ag mercaptide in 94% yield. The Ag was removed with concentrated HCl to give a 70% yield of N-carbobenzoxy-L-cysteinylglycine Et ester, m. 123-4°, [α]28D -16.8° (c 3, EtOH). Upon oxidation with

0.1N iodine in 50% HOAc N,N'-dicarbobenzoxy-L-cysteinylglycine, m. 167-8°, $[\alpha]_{30D} -141.6^\circ$ (c 0.6, IV), was obtained in 86% yield. N,S-Ditrityl-L-cysteinylglycine p-nitrophenyl ester, m. 184-5°, $[\alpha]_{20D} 62.4^\circ$ (c 3, CHCl₃), was prepared from VI and glycine-p-nitrophenyl ester-HBr with XIV in 25% yield. N-Carbobenzoxy-S-diphenylmethyl-L-cysteinylglycine Et ester, m. 117-18°, $[\alpha]_{20D} -30^\circ$ (c 2, MeOH), was prepared from VII and XIII with XIV in 25% yield. Dioxane-N NaOH (1:1) at room temperature removed the ester group in 70% yield to give N-carbobenzoxy-S-diphenylmethyl-L-cysteinylglycine dicyclohexylammonium salt, m. 156-7° $[\alpha]_{27D} -25.3^\circ$ (c 3, IV). This was decarbobenzoxyated with 2N HBr in HOAc at 40° to give in 10 min. 70% yield of S-diphenylmethyl-L-cysteinylglycine, m. 233-4°, $[\alpha]_{27D} 55.3^\circ$ (c 1.7, N HCl in 65% EtOH). N-Formyl-S-diphenylmethyl-L-cysteinylglycine Et ester (XVI) was prepared analogously to XII, yield 62%, m. 92-3°. N-Carbobenzoxy-L-phenylalanyl-S-trityl-L-cysteinylglycine Et ester (XVII), m. 156-7°, $[\alpha]_{29D} -14^\circ$ (c 5, IV), was prepared from XII (after decarbobenzoxylation with N HCl in EtOH) and carbobenzoxy-L-phenylalanine with ClCO₂Et in 51% yield. From this compound the dinitrified and disulfide derivs. were prepared as described for XV, to give N-carbobenzoxy-L-phenylalanyl-L-cysteinylglycine Et ester, yield 71%, m. 178-9°, $[\alpha]_{30D} -16.8^\circ$ (c 3, IV); and N,N'-dicarbobenzoxy-L-phenylalanyl-L-cystinyldiglycine di-Et ester, yield 98%, m. 214-15°, $[\alpha]_{29D} -82.8^\circ$ (c 3, IV). In an analogous manner to XVII, N-trifluoroacetyl-L-valyl-S-diphenylmethyl-L-cysteinylglycine Et ester was prepared from XVI and N-trifluoroacetyl-L-valine with XIV; yield 23%, m. 175°, $[\alpha]_{27D} -23.2^\circ$ (c 3, IV). Refluxed in CF₃CO₂H and PhOH for 30 min. the compound gave 70% yield of N-trifluoroacetyl-L-valyl-L-cysteinylglycine Et ester, m. 194-6°, $[\alpha]_{27D} -18^\circ$ (c 3, IV). Oxidation of this with 0.1N iodine in 80% HOAc gave 95% N,N'-bis(trifluoroacetyl)-L-valyl-L-cystinyldiglycine di-Et ester, m. 238-9°, $[\alpha]_{27D} -92^\circ$ (c 3, IV).

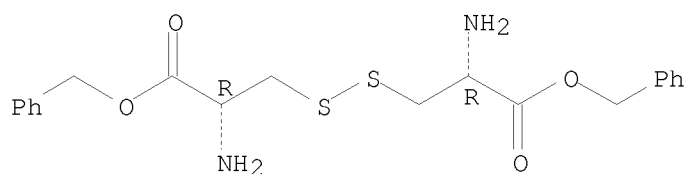
IT 7729-20-6P, Glycine, N,N'-L-cystyl-di- 84697-17-6P,
Cystine, dibenzyl ester, dihydrochloride 85006-27-5P, Cystine,
dibenzyl ester, di-p-toluenesulfonate
RL: PREP (Preparation)
(preparation of)
RN 7729-20-6 CAPLUS
CN Glycine, L-cysteinyl-, bimol. (1-1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



RN 84697-17-6 CAPLUS
CN L-Cystine, bis(phenylmethyl) ester, dihydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.



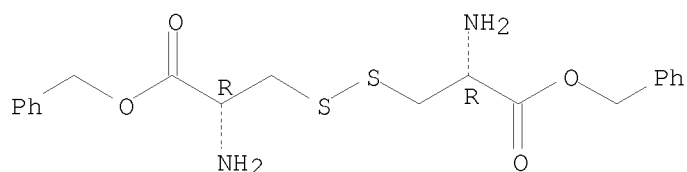
● 2 HCl

RN 85006-27-5 CAPLUS
 CN L-Cystine, bis(phenylmethyl) ester, bis(4-methylbenzenesulfonate) (9CI)
 (CA INDEX NAME)

CM 1

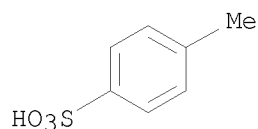
CRN 85006-26-4
 CMF C20 H24 N2 O4 S2

Absolute stereochemistry.



CM 2

CRN 104-15-4
 CMF C7 H8 O3 S

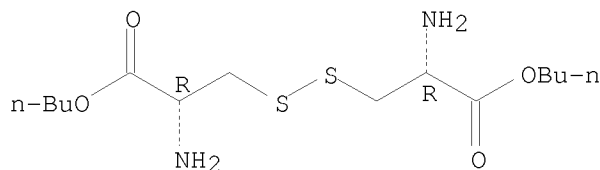


L5 ANSWER 371 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1962:479332 CAPLUS
 DOCUMENT NUMBER: 57:79332
 ORIGINAL REFERENCE NO.: 57:15781e-g
 TITLE: Gas chromatography of the butyl-N-trifluoroacetyl
 derivatives of amino acids
 AUTHOR(S): Zomzely, Claire; Marco, Gino; Emery, Edward
 CORPORATE SOURCE: Monsanto Chem. Co., St. Louis, MO
 SOURCE: Anal. Chem. (1962), 34, 1414-17
 CODEN: ANCHAM; ISSN: 0003-2700
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 AB Mild esterification conditions permitted one-step separation of 19 amino acids,
 include tryptophan, cystine, cysteine, arginine, and histidine. The mixed
 acids were dissolved in a mixture of BuOH containing 5% HCl and 10% HCONMe2 and
 stirred 3 h. at 55-60°. BuOH was evaporated in vacuo at 60°,
 the residue neutralized with N Na2CO3, and extracted with CH2Cl2, which was

evaporated at 30°. More CH₂Cl₂ was added and evaporated to remove H₂O. To the residue, dissolved in CH₂Cl₂ plus 2% HCONMe₂, was added (F₃CCO)₂O in a closed system at ice-NaCl temperature and the mixture kept 30 min. at 28°. Excess reagents were removed in vacuo and the residue chromatographed in acetone, by using a H flame detector, N carrier gas, neopentyl glycol succinate polyester coated on Gas Chrom A, at 75-220° and 128 mL./min. The results were reproducible but not quant.

IT 71861-67-1, Cystine, dibutyl ester
 ((trifluoroacetyl) derivative, chromatog. of)
 RN 71861-67-1 CAPLUS
 CN L-Cystine, dibutyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



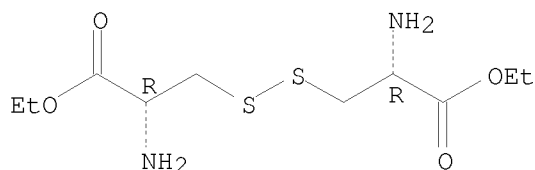
L5 ANSWER 372 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1962:63719 CAPLUS
 DOCUMENT NUMBER: 56:63719
 ORIGINAL REFERENCE NO.: 56:12234c-e
 TITLE: Reduction of disulfides by human erythrocytes
 AUTHOR(S): Eldjarn, L.; Bremer, J.; Boerresen, H. C.
 CORPORATE SOURCE: Univ. Oslo, Norway
 SOURCE: Biochemical Journal (1962), (82), 192-7
 CODEN: BIJOAK; ISSN: 0264-6021
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable

AB Reduction of the following disulfides has been studied in human erythrocytes: cystamine, N,N'-dimethylcystamine, N,N'-diethylcystamine, N,N,N',N'-tetramethylcystamine, N,N,N',N'-tetraethylcystamine, N,N'-diacetylcystamine, Na tetrathioate, thioglycolic acid disulfide, thioethanol disulfide, cystine diethyl ester, oxidized glutathione, L-cystine, and L- and D-homocystine. All but the last 3 are reduced at varying rates. Cystamine and its derivs. are reduced at a rapid rate. The reduction most likely proceeds via spontaneous exchange reactions with intracellular glutathione, the oxidized glutathione formed being reduced by glutathione reductase. The last 3 are not reduced because of the impermeability of the erythrocytes to these compds. The remainder are reduced at a slower rate. When human erythrocytes are stored in the conventional acid citrate-glucose buffer, a rapid decline in disulfide-reducing capability is observed.

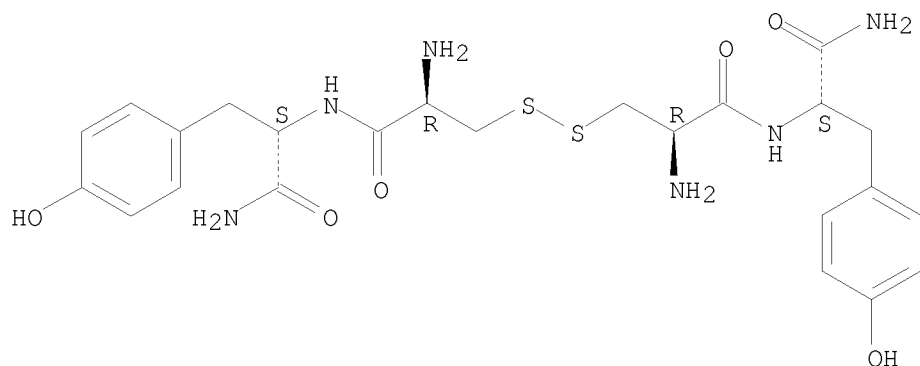
IT 583-89-1, Cystine, diethyl ester
 (reduction by erythrocytes)
 RN 583-89-1 CAPLUS
 CN L-Cystine, 1,1'-diethyl ester (CA INDEX NAME)

Absolute stereochemistry.



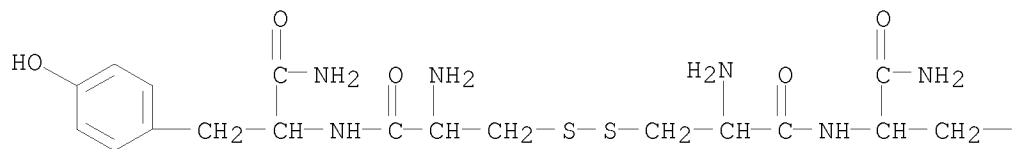
L5 ANSWER 373 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1961:43507 CAPLUS
 DOCUMENT NUMBER: 55:43507
 ORIGINAL REFERENCE NO.: 55:8494d-e
 TITLE: A competitive substrate of oxytocinase
 AUTHOR(S): Wintersberger, E.; Tuppy, H.; Stoklaska, E.
 CORPORATE SOURCE: Univ. Vienna
 SOURCE: Monatshefte fuer Chemie (1960), 91, 577-81
 CODEN: MOCMB7; ISSN: 0026-9247
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 AB L-Cystinyl-di-L-tyrosinamide (I), structurally similar to oxytocin (II), inhibited the oxidation of II by serums of pregnant women. I is itself oxidized.
 IT 52329-45-0, Hydrocinnamamide, α, α' -[dithiobis[(1-aminoethylene)carbonylimino]]bis[p-hydroxy-860406-47-9, Propionamide, 3,3'-dithiobis[2-amino-N-(α -carbamoyl-p-hydroxyphenethyl)-(oxidation by oxytocinase)
 RN 52329-45-0 CAPLUS
 CN L-Tyrosinamide, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

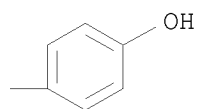


RN 860406-47-9 CAPLUS
 CN INDEX NAME NOT YET ASSIGNED

PAGE 1-A



PAGE 1-B



L5 ANSWER 374 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1961:22733 CAPLUS

DOCUMENT NUMBER: 55:22733

ORIGINAL REFERENCE NO.: 55:4488a-d

TITLE: Amino acids and peptides. VI. Studies on cystine and α,α' -dimethylcystine in relation to the alkaline degradation of protein disulfides

AUTHOR(S): Stapleton, I. W.; Swan, J. M.

CORPORATE SOURCE: Wool Research Labs., C.S.I.R.O., Melbourne

SOURCE: Australian Journal of Chemistry (1960), 13, 416-25

CODEN: AJCHAS; ISSN: 0004-9425

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB cf. CA 51, 16613a; 53, 243e. 5-(Benzylthiomethyl)-5-methylhydantoin (I), m. 119°, was obtained in 36% yield by adding a ketone (formed from PhCH₂SNa and AcCH₂Br in EtOH, without isolation) to (NH₄)₂CO₃ and KCN in H₂O, stirring 7 hours at 65-75°, and working up.

S-Benzyl- α -methyl-DL-cysteine (II), m. 228°, was prepared from

I as described by Potts (CA 50, 3415f) except that precipitated BaCO₃ was extracted

several times with boiling H₂O to improve recovery.

α -Methyl-DL-cysteine hydrochloride (III), m. 175-82°, was

obtained by Na-liquid NH₃ debenzoylation of II, followed by work-up with exclusion of O. α,α' -Dimethylcystine (IV), m. 248-50°

(decomposition), was obtained in 74% yield from II by debenzoylation and aeration. IV dimethyl ester dihydrochloride m. 200°. IV was much

more stable to aqueous alkali than was cystine (V). The di-Me ester of IV was stable to NEt₃ in MeOH, whereas the di-Me ester of V decomposed (liberating S). These results supported the hypothesis that, in the alkaline degradation

of cystine, attack occurred at the amino acid α -C atom with synchronous displacement of RSS-.

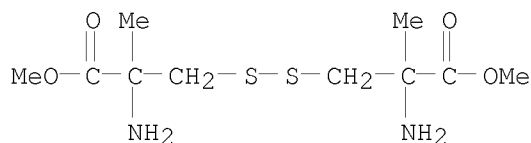
IT 103754-82-1P, Alanine, 3,3'-dithiobis[2-methyl-, dimethyl ester, dihydrochloride

RL: PREP (Preparation)

(preparation of)

RN 103754-82-1 CAPLUS

CN Alanine, 3,3'-dithiobis[2-methyl-, dimethyl ester, dihydrochloride (6CI)
(CA INDEX NAME)



● 2 HCl

L5 ANSWER 375 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1961:13081 CAPLUS

DOCUMENT NUMBER: 55:13081

ORIGINAL REFERENCE NO.: 55:2504i,2505a-i,2506a-i,2507a-e

TITLE: Cytoactive amino acids and peptides. VIII. $\text{N}\alpha$ -Acyl, amide, ester, and peptide derivatives of melphalan

AUTHOR(S): Bergel, F.; Stock, J. A.

CORPORATE SOURCE: Roy. Cancer Hosp., London

SOURCE: Journal of the Chemical Society (1960) 3658-69

DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable

AB cf. CA 53, 17916b. Various simple derivs. of melphalan [p-bis(2-chloroethyl)amino-L-phenylalanine] (I) were prepared in which the α -amino group was formylated or the carboxyl group converted into an ester or amide group, or in which both changes were made. Some di- and tripeptides and a tetrapeptide were described in which, with one exception, I was the C-terminal amino acid. The deacylation of benzyloxycarbonyl dipeptide esters with alc.-HCl was studied. Preliminary biol. results were briefly discussed. Iso-Bu chloroformate (2.0 ml.) was added with shaking to a cold solution of 5 g. N-formyl amino acid and 2.1 ml. NEt₃ in 23 ml. dry tetrahydrofuran, the mixture set aside 15 min. at 0°, aqueous NH₄OH added, after 2 hrs. at room temperature the mixture evaporated in vacuo, the residue extracted with EtOAc, washed with 0.1N HCl, dilute NaHCO₃, H₂O, dried, and recovered by evaporation. The residual gum was converted into the crystalline N α -formylamide by addition of H₂O to its solution in alc. Preparation of the N α -formylethylamide was similar to that of the amide but with 33% EtNH₂. Esterification was carried out by setting aside a solution of I overnight in 10N alc.-HCl, or by heating the amino acid 2 hrs. in 6N alc.-HCl; in both cases the mixture evaporated, the residual gum taken up in alc., Et₂O added to precipitate the product, the material taken up in alc., and treated with CHCl₃ gave Et ester-HCl. The Et ester-HCl (3.7 g.) and 0.7 g. NaO₂CH in 40 ml. 98% HCO₂H and 10 ml. Ac₂O set aside 2 days at room temperature, treated with H₂O, evaporated, the oily residue extracted with EtOAc, and washed gave the N-formyl Et ester. The Et ester-HCl (3.7 g.), 1.4 ml. dry NEt₃, and CHCl₃ shaken, 1 g. succinic anhydride added, the mixture set aside overnight, and evaporated in vacuo gave a gum, which was converted into the solid ester by addition of H₂O to a MeOH solution of the product. A solution of the N α -formylamide (0.5 g.) in 10 ml. 0.5N alc.-HCl warmed 5 min. at 40°, cooled, treated with excess Et₂O, and set aside 1 hr. gave 0.15 g. amide HCl salt, m. 225-8° (decomposition). When the formyl compound in excess 3N alc.-HCl was set aside 24 hrs. at room temperature, the product was contaminated with NH₄Cl. The following simple derivs. of I were thus obtained [X and R of p-(ClCH₂CH₂)NC₆H₄CH₂C(COX)NHR, solvent for crystallization, m.p., [α]_D, and % yield given]: OH, HCO, aqueous MeOH, 139-40°, 72°, 85; OEt, HCO, aqueous MeOH, 70-1°, 37°, 71; NH₂, HCO, aqueous alc., 140-5°, 25°, 76; NH₂Et, HCO, aqueous PrOH, 141-4°, 20°, 65; OEt, HO₂C(CH₂)₂CO, aqueous MeOH, 112-14°, 26°, 79; OEt, H.HCl, CHCl₃-alc., 165-7°, 12°, 87; NH₂, H.HCl, alc., 241-3°, 12°, 30. In general, iso-Bu chloroformate (5 millimoles) was added to 5 millimoles cold acylamino acid solution and 5 millimoles NEt₃ in dry tetrahydrofuran, the mixture kept 20 min. in ice, treated with 5 millimoles freshly prepared Et ester-HCl of I and 5 millimoles NEt₃ in CHCl₃, next day the mixture taken to dryness, the EtOAc extract of the residue washed with 0.1N HCl and NaHCO₃ solution, dried, evaporated, and the residual gummy or solid acyl peptide ester purified by crystallization. In the preparation of the cystine derivative, [SCH₂CH(NHCO₂CH₂Ph)CONH(CO₂Et)CH₂C₆H₄N(CH₂CH₂Cl)₂-p]₂ (II), 2 moles I ester and of the other reagents was used/mole diacylcystine. II was crystallized from pentanol, m. 160-2°, [α]_D -8°, in 60% yield. Benzyloxycarbonylglycylmelphalan ester was exceptional; it could not be obtained solid, but deacylation led to a crystalline picrate. The N-formyl derivative of I (10 g.) and glycine Et ester condensed by the chloroformate procedure described above gave N-formylmelphalanylglycine Et ester (III). III was crystallized from aqueous MeOH in 53% yield, m. 120-2°, [α]_{23-7D} 15° (c 1, alc.). Deacylation of N-benzyloxycarbonyl dipeptide esters was studied. (a) Catalytic hydrogenolysis. A 5% Pd-C catalyst was used and the reaction was completed in 4 hrs. at room temperature and pressure in alc. or alc.-EtOAc

containing about 3 equivs. alc. - HCl.

NH₂CH₂CONHCH(CO₂Et)CH₂C₆H₄N(CH₂CH₂Cl)₂-p (IIIa) was crystallized from C₆H₆-EtOAc in 53% yield, m. 146-7°, [α]_{22-5D} 20° (c 1, alc.), and H₂NCH(CHMe₂)CONHCH(CO₂Et)CH₂C₆H₄N(CH₂CH₂Cl)₂ - p from EtOH-Et₂O in 93% yield, m. 240-3°, [α]_{22-5D} 30° (c 1, alc.).

These two compds. were isolated as HCl salts; the deliquescent glycine derivs. were converted into picrates.

Benzyloxycarbonyl-L-phenylalanylmelphalan Et ester (IV), m. 164-5° (alc.), [α]_{22-25D} 21° (c 1, alc.), was obtained in 61% yield.

IV (80 mg.) in HCO₂H saturated with HCl, set aside 16 hrs. at room temperature, and the H₂O-insol. product crystallized from alc. gave unchanged IV. (c) Hydrolysis with alc.-HCl. Time and concentration study with benzyloxycarbonylglycylglycine (V). Portions (18 mg. each) of V were severally dissolved in 10 ml. each 1.25N, 2.5N, 5N, and 10N alc.-HCl; dissoln. in the 3 weakest solns. was slow, but was assisted by shaking; 0.01 ml. was removed at intervals up to 5 days and spotted on paper, together with glycine, glycine ester, glycylglycine, and glycylglycine ester. The chromatograms were developed and the results tabulated as reaction time in hrs., results from 1.25N, 2.5N, 5.0N, and 10N reagent. Glycylglycine ester appeared to be the only product. Quant. study with benzyloxycarbonyl-DL-phenylalanine (VI) was carried out. A 10% solution of VI in alc. saturated with HCl was prepared, 2 ml. samples withdrawn at intervals, each sample evaporated, the residue shaken with Et₂O, and the weight of the residual phenylalanine ester-HCl recorded. The following results were obtained (reaction time in hrs., ester-HCl recovered in mg., deacylation % yield): 3, 61, 40; 6, 85, 55; 16, 126, 82; 48, 142, 92; 64, 154, 100. Benzyloxycarbonyl-DL-phenylalanylglycine ethyl ester (10 mg.) in 2 ml. saturated alc.-HCl set aside 72 hrs. at room temperature, evaporated, and the

residue chromatographed gave only one ninhydrin pos. spot, corresponding to phenylalanylglycine ester. No phenylalanine ester or glycine ester was detected. The procedure for benzyloxycarbonylglycyl-DL-phenylalanine Et ester was as outlined above. Glycylphenylalanine ester was the only product, except a trace of glycine ester. In general, the esters containing the PhCH₂OCO group were dissolved in said. alc.-HCl, set aside 3-4 days, and evaporated to give a residue, which was taken up in a little alc. and reprecipitated by Et₂O. IIIa was obtained by this method except the HCl salt was deliquescent and was converted into a picrate.

H₂NCHMeCONHCH(CO₂Et)CH₂C₆H₄N(CH₂CH₂Cl)₂ - p was similarly obtained in 50% yield, m. 137-9°, [α]_D 18°. [SCH₂CH

(NH₂)CONHCH(CO₂Et)CH₂C₆H₄N(CH₂CH₂Cl)₂-p]₂ was similarly obtained in 92% yield, m. 140-2°, [α]_D -34°. The purity of some of the peptide ester HCl salts was checked by ascending chromatography.

Benzyloxycarbonyl-L-valylmelphalan Et ester (VII), obtained in 72% yield, m. 159-60°, [α]_D 35°. VII (0.32 g.) refluxed 25 min.

with 4 ml. concentrated HCl, cooled, concentrated, extracted with Et₂O, and a concentrated NaOAc

solution added gave 75% L-valylmelphalan, m. 240-3° (alc.-Et₂O), [α]_{21D} 54° (c 1.9, MeOH). The product gave a single spot, R_f 0.88. Benzyloxycarbonyl-L-valine condensed on a 22 millimolar scale with glycine ester by the chloroformate method gave 64%

benzyloxycarbonyl-L-valylglycine Et ester (VIII), m. 169-70°, [α]_{24D} -6° (c 1, EtOAc). VIII (2 g.) and 1.2 g. N₂H₄.H₂O

heated 1 hr. in 30 ml. MeOH, set aside overnight, and evaporated gave 1.63 g.

benzyloxycarbonyl-L-valylglycine hydrazide (IX), m. 175-6° (MeOH),

[α]_{24D} -4° (c 2.25, alc.). IX (1.13 g.) in 10 ml. AcOH and

25 ml. H₂O treated cold with 0.27 g. NaNO₂ in 2 ml. H₂O and 1 ml. concentrated HCl, the mixture extracted with cold EtOAc, washed with cold saturated NaHCO₃

then

H₂O, filtered, stirred with 0.66 ml. NEt₃, 1.74 g. I ester-HCl, and 12 ml.

EtOAc, the solution filtered, set aside 48 hrs. at 0°, washed, dried,

and evaporated gave benzyloxycarbonyl-L-valylglycylmelphalan Et ester (IXa) in

82% yield, m. 106-9° (aqueous alc.), $[\alpha]_{23D}^{25}$ (c 1, EtOAc). Benzyloxycarbonyl-L-alanyl-L-leucine Et ester was prepared on a 20 millimolar scale from benzyloxycarbonyl-L-alanine and L-leucine Et ester-HCl (X) in 69% yield as a yellow oily product which resisted attempts to crystallize it. X was converted into 70% hydrazide as above, m. 152-62°, $[\alpha]_{22D}^{-55}$ (c 1, alc.). The azide method was used on a 2 millimole scale to give 44%

benzyloxycarbonyl-L-alanyl-L-leucylmelphalan Et ester (XI), m. 150-2° (aqueous MeOH), $[\alpha]_{23-7D}^{-21}$ (c 1, alc.).

Benzyloxycarbonyl-L-valine condensed with L-leucine ester on a 7 millimole scale gave 1.7 g. benzyloxycarbonyl-L-valyl-L-leucine Et ester (XII), m. 103-5° (aqueous alc.), $[\alpha]_{24D}^{-42}$ (c 1.00, alc.). XII (1 g.) was converted into benzyloxycarbonyl-L-valyl-L-leucine hydrazide, m. 135-40°, 172-3° (fluid).

Benzyloxycarbonyl-L-valyl-L-leucylmelphalan Et ester (XIIa) was obtained in 54% yield following the azide procedure, m. 156-9° (aqueous MeOH), $[\alpha]_{23-7D}^{-14}$, (c 1, alc.). Formylmalphalanylglycine ester (1.5 g.) in 20 ml. N alc.-HCl warmed 5 min. at 45° and evaporated gave a deliquescent gum; this in alc. taken up in 10 ml. CHCl₃, left in 0.49 ml. NEt₃, treated with 0.47 ml. isobutyl chloroformate in 0.49 ml. NEt₃ overnight, and worked up as usual gave 16%

benzyloxycarbonyl-L-valylmelphalanylglycine Et ester (XIII), m. 178-80° (PrOH), $[\alpha]_{20D}^{-22}$ (c 1, CHCl₃). IXa, XI, and XIII (1-2 millimoles each) were deacylated by catalytic hydrogenation over 5% Pd-C in alc. containing 4-8 milliequiv. 10N alc. HCl, the product obtained by evaporation of each filtered mixture recrystd. or repptd. gave the hydrochlorides. Thus were obtained: 80% H₂NCH₂CONHCH(CHMe₂)CONHCH(CO₂Et)CH₂C₆H₄N(CH₂CH₂Cl)₂-p, m. 153-5° (alc.-Me₂CO), $[\alpha]_{22-5D}^{-54}$ (c 1, alc.); 53% H₂NCH(CHMe₂)CONHCH[CH₂C₆H₄N(CH₂CH₂Cl)₂-p]CONHCH(CO₂Et), m. 153-6° (alc.-Et₂O), $[\alpha]_{23-7D}^{-30}$ (c 1, alc.); and 75% H₂NCHMeCONHCH(Bu-iso)CONHCH(CO₂Et)CH₂C₆H₄N(CH₂CH₂Cl)₂-p, m. 158-63°, $[\alpha]_{24D}^0$ (c 1, MeOH). Hydrogenolysis of XIIa under the same conditions yielded 0.18 g. granular product, m. 182-9°. This product was converted by 2 crystns. into L-valyl-L-leucylmelphalan Et ester-HCl, m. 155-7° (decomposition). Heating part of this material at 100° in vacuo converted it into a gum. The remainder of the product decomposed to a dark gum within a few days in the dark at room temperature. Benzyloxycarbonyl-L-valine condensed with glycyglycine Et ester on a 27 millimole scale gave 73% benzyloxycarbonyl-L-valylglycyglycine Et ester (XIV), m. 155-7°, $[\alpha]_{21D}^1$ (c 1, alc.). XIV (3.93 g.) refluxed 1.5 hrs. with 2 g. N₂H₄.H₂O in 40 ml. MeOH and evaporated gave 3.1 g. benzyloxycarbonyl-L-valylglycyglycine hydrazide (XV), m. 178-80° (alc.). XV and melphalan ester by the azide method on the 8 millimole scale gave 82% benzyloxycarbonyl-L-valylglycyglycylmelphalan ester (XVI), m. 133-5° (aqueous MeOH), $[\alpha]_{23-7D}^{36}$ (c 1, alc.). XVI (1 g.) deacylated by catalytic hydrogenation gave 82% valylglycyglycylmelphalan Et ester, m. 124-7° (alc.-H₂O), $[\alpha]_{20D}^{34}$ (c 2, alc.). The following compds. were similarly prepared (compound, solvent for crystallization, m.p., $[\alpha]_D$, and % yield given):

benzyloxycarbonyl-L-alanylmelphalan Et ester, aqueous alc., 95-6°, 35°, 71; benzyloxycarbonyl-D-alanylmelphalan Et ester, aqueous alc., 100-1°, 19°, 60; benzyloxycarbonyl-D-valylmelphalan Et ester, MeOH, 160-1°, 26°, 56; benzyloxycarbonyl-L-leucylmelphalan Et ester, PrOH, 90-2°, 32°, 84; acetyl-L-phenylmelphalan Et ester, aqueous MeOH, 156-8°, 31°, 71; L-AcNHCH(CH₂C₆H₄NO₂-p)CONHCH(CO₂Et)CH₂C₆H₄N(CH₂CH₂Cl)₂-p, MeOH, 167-70°, 39°, 76; D-AcNHCH(CH₂C₆H₄NO₂-p)CONHCH(CO₂Et)CH₂C₆H₄N-(CH₂CH₂Cl)₂-p, aqueous PrOH, 125-7°, 42°, 62; AcNHCH(CH₂C₆H₄NH₂)-pCONHCH(CO₂Et)CH₂C₆H₄N(CH₂CH₂Cl)₂-p, MeOH-EtOAc, 211-14°, -7°, 78; L-H₂NCHMeCONHCH(CO₂Et)CH₂C₆H₄N(CH₂CH₂Cl)₂-p, alc.-Et₂O,

193-5°, 21°, 61; L-H₂NCH(Bu-
iso)CONHCH(CO₂Et)CH₂C₆H₄N(CH₂CH₂Cl)₂-p, alc.-Et₂O, 170-2° 12, 88; L
- H₂CH(CH₂Ph)CONHCH(CO₂Et) CH₂C₆H₄N(CH₂CH₂Cl)₂-p, alc.-Et₂O,
204-6°, 20°, 96.

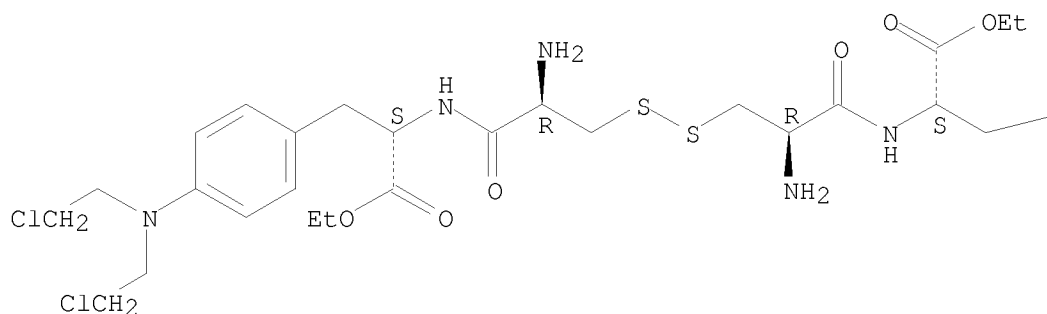
IT 104440-85-9P, Alanine, N,N'-cystylbis[3-[p-[bis(2-
chloroethyl)amino]phenyl]-, L-, di-Et ester, dihydrochloride
RL: PREP (Preparation)
(preparation of)

RN 104440-85-9 CAPLUS

CN Alanine, N,N'-cystylbis[3-[p-[bis(2-chloroethyl)amino]phenyl]-, diethyl
ester, dihydrochloride (6CI) (CA INDEX NAME)

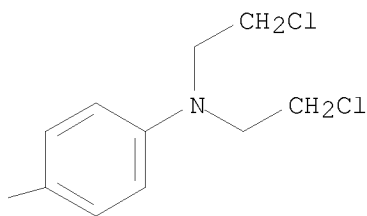
Absolute stereochemistry.

PAGE 1-A



● 2 HCl

PAGE 1-B



L5 ANSWER 376 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1960:128249 CAPLUS
DOCUMENT NUMBER: 54:128249
ORIGINAL REFERENCE NO.: 54:24426i,24427a-b
TITLE: The utilization of L-cystinyl-L-valine for penicillin
biosynthesis
AUTHOR(S): Arnstein, H. R. V.; Morris, D.
CORPORATE SOURCE: Natl. Inst. Med. Research, London
SOURCE: Biochemical Journal (1960), 76, 323-7
CODEN: BIJOAK; ISSN: 0264-6021
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

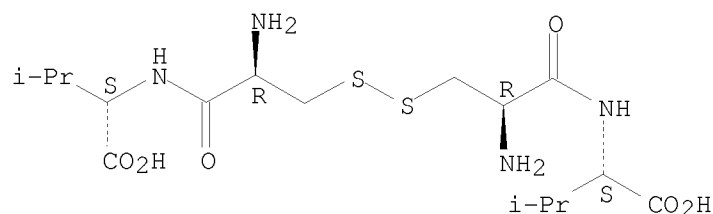
AB The incorporation of radioactivity from L-cystinyl-L-valine-carboxy-C14, L-cystinyl-D-valine-carboxy-C14 and uniformly labeled L-valine-C14 into penicillin by washed mycelium of *Penicillium chrysogenum* WIS 51-20 F3 was compared with their utilization for protein synthesis. The D-isomer was not metabolized to any significant extent. The L-isomer was used preferentially for penicillin biosynthesis, indicating that this peptide could be utilized without hydrolysis into cystine and valine. The extent of the direct utilization of L-cystinyl-L-valine for penicillin formation appeared to be quant. limited and the existence of a pathway of penicillin biosynthesis from cystine and valine, which did not involve cystinyl- or cysteinylvaline as obligatory intermediates, was suggested.

IT 21141-84-4P, Valine, N,N'-L-cystyl-di-, L-
RL: PREP (Preparation)
(in penicillin biosynthesis)

RN 21141-84-4 CAPLUS

CN L-Valine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 377 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1960:128248 CAPLUS

DOCUMENT NUMBER: 54:128248

ORIGINAL REFERENCE NO.: 54:24426b-i

TITLE: Synthesis of optical isomers of cystinylvaline

AUTHOR(S): Arnstein, H. R. V.; Morris, D.

CORPORATE SOURCE: Natl. Inst. Med. Research, London

SOURCE: Biochemical Journal (1960), 76, 318-23

CODEN: BIJOAK; ISSN: 0264-6021

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

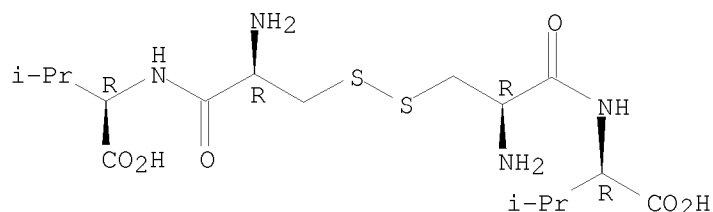
AB Benzyloxycarbonyl-S-benzyl-L-cysteine and valine Et ester HCl were shaken together 40 min. in dry ethylene dichloride to give a clear solution, NET3 and dicyclohexylcarbodiimide were added with cooling, the mixture shaken 2.5 hrs. and allowed to stand at room temperature overnight. The insol. dicyclohexylurea formed was filtered off, the solvent evaporated in vacuo and the residue dissolved in AcOEt. The solution was extracted with H2O, N HCl, H2O, aqueous 2% NaHCO3, and H2O. The organic phase was evaporated to dryness in vacuo in the presence of C6H6 to yield an oil which on evaporation with EtOH yielded a crystalline solid, benzyloxycarbonyl-S-benzyl-L-cysteinyl-L-valine Et ester, m. 78°, [α]_{D24} -38.0°. A similar preparation with L-valine benzyl ester HBr gave benzyloxycarbonyl-S-benzyl-L-cysteinyl-L-valine benzyl ester, m. 62-4°, [α]_{D24} -24.4°. The Et ester dissolved in Me2CO and N NaOH was shaken 30 min., filtered, and the filtrate poured into H2O. The aqueous solution was extracted with AcOEt, and the organic phase back-extracted with aqueous 2% NaHCO3. The combined aqueous portions were acidified to Congo red with 2N HCl and the solution extracted thoroughly with AcOEt. After drying overnight, the solvent was removed in vacuo to yield

a gum. A portion of this was converted to the cyclohexylamine salt to yield benzyloxycarbonyl-S-benzyl-L-cysteinyl-L-valine cyclohexylamine salt, m. 145-6°. The saponified material was suspended in dry AcOH containing HBr and allowed to stand 45 min. at room temperature. The clear solution was freeze-dried to yield a product which was extracted with Et2O to remove benzyl bromide. The aqueous solution was applied to a Zeo-Karb 2.5 column in the H form, then eluted with H2O and aqueous 0.15N NH3. Evaporation of the NH3 eluate to dryness, followed by crystallization from EtOH-Et2O gave S-benzyl-L-cysteinyl-L-valine, m. 198-200°, $[\alpha]_{D22}$ 16.0°. Liquid NH3 was treated with Na until a permanent blue color was obtained and then distilled in a closed system into a flask cooled in liquid air. The S-benzyl peptide was added to the distillate and Na was introduced in small quantities with stirring until a permanent blue color was obtained. (NH4)2SO4 was added and the liquid NH3 evaporated as quickly as possible. The residue was suspended in H2O, the pH adjusted to 8 with N HCl, a trace of dilute aqueous FeCl3 added and air bubbled through the solution until the blue color disappeared. The peptide was adsorbed in the Zeo-Karb column and eluted as above. The final product was purified by dissolving the crude material in H2O with a trace of NH3, adding EtOH and Et2O, and drying at 100° to yield pure L-cystinyl-L-valine monohydrate, m. above 300°, $[\alpha]_{D27}$ -21.8°. Bis(benzyloxycarbonyl)-L-cystinyl-D-valine Et ester, m. 179-80°, $[\alpha]_{D22}$ 6.0°, was prepared in a similar manner starting with bis(benzyloxycarbonyl)-L-cystine and D-valine Et ester HCl salt. However, this compound could not be saponified.

Benzyloxycarbonyl-S-benzyl-L-cysteinyl-D-valine Et ester was prepared in the same way starting with the D-valine Et ester HCl salt, m. 120°, $[\alpha]$ 19.0°. This ester was saponified as above to yield benzyloxycarbonyl-S-benzyl-L-cysteinyl-D-valine, m. 112-14°, $[\alpha]_{D24}$ -31°. After treatment with HBr in AcOH the reaction mixture was treated as described for the L-isomer to yield S-benzyl-L-cysteinyl-D-valine, m. 207-9°, $[\alpha]_{D23}$ 17.6°. After reduction with Na in liquid NH3, recrystn. gave DL-cystinyl-D-valine dihydrate, m. above 300°, $[\alpha]_{D22}$ 29.6°. L-Cystinyl-D-valine was prepared by separation of the diastereoisomers. L-Cystinyl-L-valine-carboxy-C14 and L-cystinyl-D-valine-carboxy-C14 were synthesized by identical methods up to the stage of removal of the benzyloxycarbonyl group. Na was replaced by Li in the reduction step. The problems of racemization during the removal of the protecting groups and removal of salt from the free peptides were discussed.

IT 71301-35-4
 (Derived from data in the 6th Collective Formula Index (1957-1961))
 RN 71301-35-4 CAPLUS
 CN D-Valine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

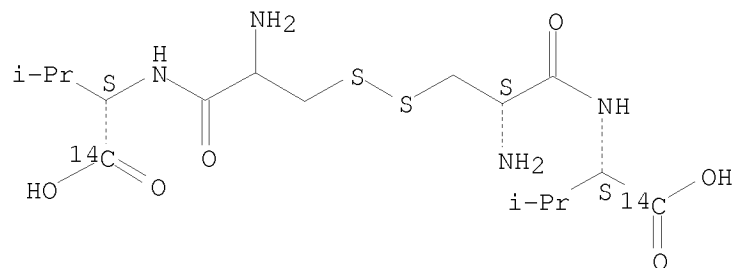
Absolute stereochemistry.



IT 887905-40-0P, Valine-1-C14, N,N'-L-cystyl-di-, L-
 887905-43-3P, Valine-1-C14, N,N'-L-cystyl-di-, D-

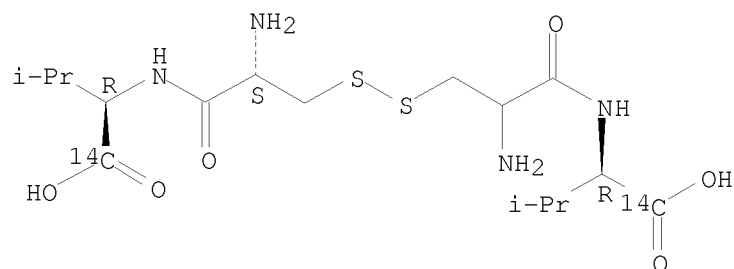
RL: PREP (Preparation)
 (preparation of)
 RN 887905-40-0 CAPLUS
 CN INDEX NAME NOT YET ASSIGNED

Absolute stereochemistry.

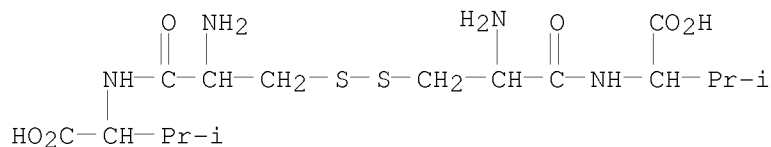


RN 887905-43-3 CAPLUS
 CN INDEX NAME NOT YET ASSIGNED

Absolute stereochemistry.



IT 93301-84-9, Valine, N,N'-cystylid-
 (stereoisomers)
 RN 93301-84-9 CAPLUS
 CN Valine, N,N'-L-cystylid- (7CI) (CA INDEX NAME)



L5 ANSWER 378 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1960:86295 CAPLUS
 DOCUMENT NUMBER: 54:86295
 ORIGINAL REFERENCE NO.: 54:16399a-g
 TITLE: Synthesis of glutathione
 AUTHOR(S): Berse, Casimir; Boucher, Roger; Piche, Lucien
 CORPORATE SOURCE: Univ. Montreal, Can.
 SOURCE: Canadian Journal of Chemistry (1959), 37, 1733-6
 CODEN: CJCHAG; ISSN: 0008-4042
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 OTHER SOURCE(S): CASREACT 54:86295
 AB The oxidized (I) and reduced (II) forms of glutathione were prepared in 10

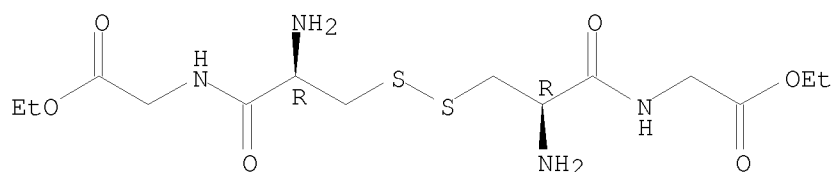
and 6.6% yields, resp. Thus, 5.6 g. Et glycinate-HCl in 50 ml. HCONMe₂ (III) and 10 ml. MeCN was treated with 9.5 ml. Bu₃N and 12 g. bis[N-(p-nitrocarboboxy)]-L-cystine. The solution was cooled to -5° and 9 g. dicyclohexylcarbodiimide (IV) added. After 30 min. at -5° and 1 day at room temperature, the mixture was treated with 5 ml. AcOH, filtered, the filtrate taken up in 200 ml. CHCl₃ and 350 ml. H₂O, and the CHCl₃ layer washed and dried to give 12.3 g. (80%) di-Et bis[N-(p-nitrocarboboxy)]-L-cystinyldiglycinate (V). A solution of 6 g. V in 25 ml. III and 50 ml. 80% EtOH was hydrogenated over 2 g. 10% Pd-C at room temperature and atmospheric pressure, the mixture filtered, concentrated in vacuo, the residue triturated with 30 ml. N HCl, filtered, the filtrate evaporated, and the residue treated with H₂O and Norit to give 2.5 g. (70%) di-Et L-cystinylglycinate-2HCl (VI). p-Nitrocarboboxy-L-glutamic acid (VII) was prepared as follows: 19 g. p-nitrocarboboxy chloride in 50 ml. dioxane was added to a cold solution of 12.3 g. L-glutamic acid in 42 ml. 4N NaOH and 20 ml. dioxane (pH 11 maintained with 2N NaOH), the mixture diluted with 300 ml. H₂O, washed with EtOAc, and acidified to Congo red with N HCl to give 21 g. (77%) VII, m. 157-8° (EtOH-H₂O), [α]_{25D} -8.0 (c 0.9, 95% EtOH). To a solution of 2.2 g. V in 30 ml. III and 5 ml. MeCN were added 2 ml. Bu₃N and 2.7 g. VII. The mixture was kept at -5°; 2 g. IV was added and, after 1 day at room temperature, 1 ml. AcOH was added. The filtrate was treated with 300 ml. H₂O and 200 ml. EtOAc. The EtOAc extract was washed with N HCl, dried, and concentrated in vacuo to yield 2.8 g. (60%) di-Et bis[N-(p-nitrocarboboxy-γ-L-glutamyl)]-L-cystinyldiglycinate (VIII). A solution of 2.7 g. VIII in 20 ml. MeOH was treated 1 hr. with a 2% excess of N NaOH at 0-5°; after 1 more hr. at room temperature, the mixture was acidified and the oily product dissolved in EtOH. The solution was concentrated in vacuo, the residue taken up in dioxane, and 1.9 g. (74%) bis[N-(p-nitrocarboboxy-γ-L-glutamyl)]-L-cystinyldiglycine (IX) precipitated with Et₂O. A solution of 2.0 g. IX in 25 ml. 80% EtOH was hydrogenated 8 hrs. at room temperature and 1 atmospheric over 1 g. 10% Pd-C, the filtrate concentrated in vacuo, the residue triturated with H₂O, the solution filtered, and the filtrate concentrated in vacuo to give 0.7 g. (55%) I, m. 175-95, [α]_{25D} -92.8 (c 1.2, H₂O). A solution of 0.4 g. I in 25 ml. H₂O was hydrogenated 12 hrs. over 0.2 g. Pd at room temperature and 1 atmospheric. The filtrate was concentrated in vacuo and the residue treated with 95% EtOH to yield 0.26 g. (65%) II, m. 190° (decomposition), [α]_{25D} -20.6 (c 1.5, H₂O).

IT 2419-00-3P, Glycine, N,N'-L-cystyldi-, diethyl ester, dihydrochloride
 RL: PREP (Preparation)
 (preparation of)

RN 2419-00-3 CAPLUS

CN Glycine, N,N'-L-cystyldi-, diethyl ester, dihydrochloride (6CI, 7CI, 8CI)
 (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 379 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1960:80419 CAPLUS

DOCUMENT NUMBER: 54:80419

ORIGINAL REFERENCE NO.: 54:15263g-i,15264a

TITLE: Reactions with L-cystine derivatives. I. Chlorinating cleavage

AUTHOR(S): Baganz, Horst; Dransch, Gunter

CORPORATE SOURCE: Tech. Univ., Berlin

SOURCE: Chemische Berichte (1960), 93, 782-4

CODEN: CHBEAM; ISSN: 0009-2940

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

OTHER SOURCE(S): CASREACT 54:80419

AB The chlorinating cleavage of N,N'-dibenzoylcystine di-Et ester (I) yielded the corresponding sulphenyl chloride which was characterized by addition to C₂H₄ and subsequent oxidation as EtO₂C(BzNH)CHCH₂SO₂CH₂CH₂Cl (II). Chlorinolysis of cystine di-Et ester-HCl (III) gave a good yield of L(-)-ClCH₂CH(NH₂)CO₂Et (IV). I (20 g.) in 180 cc. CHCl₃ treated 40 min. at -20° with gaseous Cl, the mixture treated with a stream of C₂H₄, the CHCl₃ evaporated in vacuo, the residual oil washed with Et₂O, refrigerated to solidify, suspended in Et₂O, cooled to -10°, treated with 100 cc. cold (-10°) o-HO₂CC₆H₄CO₃H in Et₂O, warmed to room temperature, and filtered after 2 days yielded 21 g. II, m. 145° (EtOH). III (10 g.) in 150 cc. dry CHCl₃ treated 45 min. at 0° with a stream of dry Cl, and the solution kept 2 days and diluted with Et₂O yielded 9 g. IV, m. 141° (tetrahydrofuran). L-Cystine di-Me ester-HCl (20 g.) in 300 cc. CHCl₃ treated 1 hr. at -30° with Cl, kept 36 hrs., and filtered, and the residue repptd. from MeOH-HCl with Et₂O gave 18 g. Me ester analog (V) of IV, m. 156°. V hydrolyzed with 20% HCl and treated with the calculated amount of NH₄OH gave L(-)-ClCH₂CH(NH₂)CO₂H (VI), browned at 160° and decomposed at higher temperature, [α]_D²⁰ -17.7° (c 7.36, H₂O). VI.HCl (7 g.) in 100 cc. H₂O refluxed 1 hr. with 10 g. Ba(OH)₂, filtered, treated with H₂SO₄, filtered again, and evaporated, and the residue dissolved in H₂O and repptd. with EtOH gave oily serine.

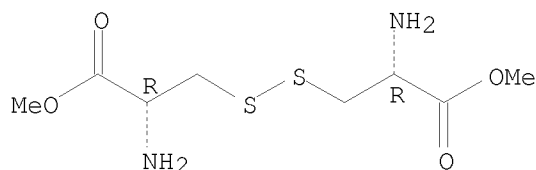
IT 32854-09-4 74985-80-1

(Derived from data in the 6th Collective Formula Index (1957-1961))

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

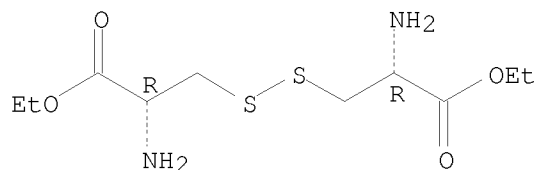
Absolute stereochemistry.



● 2 HCl

RN 74985-80-1 CAPLUS
CN L-Cystine, 1,1'-diethyl ester, hydrochloride (1:?) (CA INDEX NAME)

Absolute stereochemistry.



● x HCl

L5 ANSWER 380 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1960:80418 CAPLUS
DOCUMENT NUMBER: 54:80418
ORIGINAL REFERENCE NO.: 54:15263b-g
TITLE: Unsaturated amino acids. IV. Synthesis of
halogen-substituted allylglycines
AUTHOR(S): Shapira, Jacob; Dittmer, Karl
CORPORATE SOURCE: Florida State Univ., Tallahassee
SOURCE: Journal of the American Chemical Society (1960), 82,
1495-7
CODEN: JACSAT; ISSN: 0002-7863
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
OTHER SOURCE(S): CASREACT 54:80418
AB cf. CA 43, 574a. A series of halogen-containing unsatd. amino acids was
prepared as potential antagonists of the essential aliphatic amino acids.
CCl2:CHMe (33.1 g.), b. 76.8-7.8°, in 250 cc. dry refluxing CCl4
treated with about 75% mixture of 62.4 g. N-bromosuccinimide and 1.5 g.
Bz2O2, refluxed 0.5 hr., treated with the remaining solid, refluxed 3.5
hrs., cooled, and filtered, and the filtrate fractionated gave 46.3 g.
CCl2:CHCH2Br, pale yellow liquid, b40 74.8°, n24.7D 1.5351, d14.5
1.687 (all b.ps corrected). HI (0.2 mole) in 166 g. solution in glacial AcOH
and
11.3 g. HC.tplbond.CCH2CH(NH2)CO2H (I) heated 0.5 hr. at 60°,
heated briefly to 100°, cooled, and evaporated in vacuo, the residue
dissolved in H2O, the solution neutralized with basic Amberlite IR-4B, the
resin washed free of amino acid, the washings filtered, concentrated to 100
cc.,
warmed to 60°, diluted with an equal volume of EtOH, kept at
-15°, and filtered, and the residue washed with EtOH and Et2O and
dried gave 14.0 g. H2C:ClCH2CH(NH2)CO2H, m. 213-14° (all m.ps.
corrected); N-Bz derivative m. 144-6°. Cl (7.1 g.) passed into 100 g.
glacial AcOH and 2.0 cc. Ac2O, cooled, treated with 11.3 g. I, warmed to

room temperature with stirring, stirred 2 hrs. at room temperature, concentrated in vacuo, neutralized with concentrated NH₄OH, diluted with an equal volume of EtOH, and kept

at -15° overnight gave 8.8 g. ClCH:CCl-CH₂(NH₂)CO₂H, flakes, m. 209-10° (aqueous EtOH); N-Bz derivative, m. 159.5-60.5°. I (20.0 g.) in warm EtOH containing the min. amount of HBr treated with 16.0 g. Br, warmed 2 hrs. with stirring, neutralized with concentrated NH₄OH, diluted with

an

equal volume of Me₂CO, and kept at -15° gave 12.2 g. BrCH:CB₂CH₂CH(NH₂)CO₂H, m. 222-4° (aqueous EtOH); 6.0 g. 2nd crop; N-Bz derivative m. 163-4°. The appropriate amino acid in a small amount of H₂O containing 3 equivs. NaOH treated dropwise with stirring at 0° with 1.5 equivs. BzCl, stirred 10 min., treated dropwise with concentrated HCl, and filtered gave the corresponding N-Bz derivative. The following substituted 2-amino-4-pentenoic acids were prepared by the general methods (substituent, % yield, m.p., and m.p. of N-Bz derivative given): 4-Cl, 50, 226-6.5°, 126.5-7.5°; 4-Br, 70, 215.5-17°, 141-2°; cis-5-Cl, 94, 226-31°, 169-70°; trans-5-Cl, 91, 230-4°, 173.5-75°; 5-Br, 70, 234-5.5°, 166-9°; 5,5-di-Cl, 76, 201-2°, 172.5-3.5°. By the method described previously (CA 48, 11330h) were prepared the following RCH₂C(NHCHO)(CO₂Et)₂ (R, % crude yield, and m.p. of pure product given): cis-CHCl:CH, 84, 79-80°; trans-CHCl:CH, 66, 84-5°; CHBr:CH, 95, 69.5-70°; CCl₂:CH, 83, 86-7°.

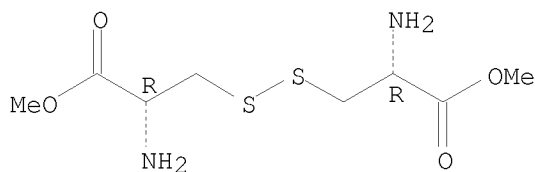
IT 32854-09-4 74985-80-1

(Derived from data in the 6th Collective Formula Index (1957-1961))

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.

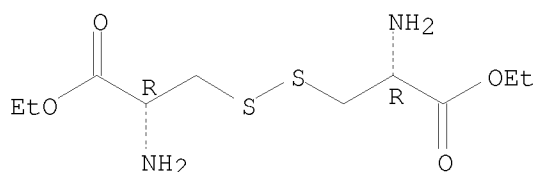


●₂ HCl

RN 74985-80-1 CAPLUS

CN L-Cystine, 1,1'-diethyl ester, hydrochloride (1:?) (CA INDEX NAME)

Absolute stereochemistry.



●_x HCl

ACCESSION NUMBER: 1960:44263 CAPLUS
DOCUMENT NUMBER: 54:44263
ORIGINAL REFERENCE NO.: 54:8656i,8657a-h
TITLE: Preparation and disulfide interchange reactions of unsymmetrical open-chain derivatives of cystine
AUTHOR(S): Zervas, Leonidas; Benoiton, Leo; Weiss, Ellinor; Winitz, Milton; Greenstein, Jesse P.
CORPORATE SOURCE: Univ. Athens, Greece
SOURCE: Journal of the American Chemical Society (1959), 81, 1729-34
CODEN: JACSAT; ISSN: 0002-7863
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB L-Cystine (Ia) (100 g.) suspended in 3 l. H₂O is just dissolved by addition of 2N NaOH, 2N HCl added to pH 8.5, the mixture diluted to 4 l. with H₂O, and 2 l. 0.33M Na₄P₂O₇ at pH 8.5 added then 10.5 g. lyophilized soluble hog kidney D-amino acid oxidase (I) and a few ml. C₈H₁₇OH. A fairly rapid stream of O₂ is bubbled in with stirring 4 days at 38°, 13.8 g. I added, oxygenation continued 2 days, the mixture acidified to pH 5 with 2N HCl, 5 g. C added, and the precipitate filtered off, washed with H₂O, and extracted twice with 2N HCl at 70°. Chilling the filtrates and adding aqueous NH₃ to pH 5 ppts. Ia. Repetition of the crystallization gave 85 g. optically pure Ia, [α]_{25D} -215° (1%, N HCl). Carbobenzyloxylation of 100 g. I, acidification of the mixture to pH 6, removal of free I, acidification of the mixture to pH 3.2, and cooling precipitated crude monocarbobenzyloxy-L-cystine (II). II washed with EtOH and Et₂O, shaken in 100 ml. N HCl 1 hr., filtered, the product dissolved in aqueous Et₂NH, and excess AcOH added precipitated 15 g. II, [α]_{23D} -117.8° (1%, N NaOH). II (3.7 g.) in 4 ml. H₂O, 4.5 ml. Et₂NH, and 8 ml. iso-PrOH was shaken 2 hrs., 20 ml. N NaOH added, the mixture acidified to pH 2 in 15 min., extracted with EtOAc, and filtered to remove 1.6 g. II; the filtrate at pH 6 then gave 200 mg. I. Evaporation of the EtOAc exts. gave 40% bis(carbobenzyloxy)-L-cystine (III), m. 121°. Similarly, II gave III under other conditions (reagent, pH, reaction time, and % yield shown):-aqueous Na₂CO₃, 7.5, 3 days, 24; phosphate buffer, 7.5, 16 hrs., 8; and -, 6.5, 5 weeks, 0. II (18.7 g.) esterified with 2N HCl in MeOH gave 75% Na-carbobenzyloxy-L-cystine di-Me ester HCl salt (IV), m. 159-60°, [α]_{25D} -82.5° (MeOH). II (1.86 g.) kept 3 days in 23.5 ml. 0.213N HCl in MeOH, treated with excess C₅H₅N, evaporated, and the residue treated with H₂O gave 1 g. Na-carbobenzyloxy-L-cystine α-Me ester, [α]_{25D} -232.2°. II (4.0 g.), 4.0 g. p-MeC₆H₄SO₃H.-H₂O, 20 ml. PhCH₂OH, and 100 ml. C₆H₆ refluxed 3hrs. with azeotropic distillation of the H₂O gave 10.1 g. monocarbobenzyloxy-L-cystine dibenzyl ester p-toluenesulfonate, m. 133-4°, [α]_{25D} -37.0° (Me₂CO). II (7.5 g.) and 3.8 g. p-MeC₆H₄SO₃H in 100 ml. PhCH₂OH kept 9 days at room temperature gave 8 g. Na-carbobenzyloxy-L-cystine α-benzyl ester, m. 78°, [α]_{25D} -191.2°. Ph₃CCl (2.8 g.) added to 4.4 g. IV and 3.0 ml. Et₃N in 30 ml. CHCl₃ and kept overnight gave 75% Na-carbobenzyloxy-Na'-trityl-L-cystine di-Me ester (V), m. 66-7° (MeOH), [α]_{25D} 103° (CHCl₃). V (0.64 g.) refluxed 1-2 min. in 2 ml. 0.5N HCl in MeOH gave quant. IV after precipitation with Et₂O. III (5.08 g.) kept overnight in 10 ml. 2N HCl in MeOH, evaporated, the residue kept overnight in 10 ml. N HCl in MeOH, evaporated, and kept overnight with 1.3 ml. N₂H₄.H₂O in 80 ml. MeOH gave 3.1 g. bis(carbobenzyloxy)-L-cystine dihydrazide (VI), m. 175-6°. V (1.9 g.) kept overnight with 2 ml. N₂H₄.H₂O in 30 ml. MeOH precipitated 0.9 g. ditrityl-L-cystine di-Me ester (VII), m. 145-6°. Detritylation of VII gave L-cystine di-Me ester di-HCl salt, m. 170° and VI. V kept 2 days in 30 ml. 0.1N KOH in MeOH precipitated 0.28 g. VII. Solid

carbobenzyloxyglycyl chloride (from 10.5 g. acid) added in 4 portions to 36 g. I in 95 ml. 4N NaOH and 95 ml. dioxane at 0°, the mixture acidified to pH 6 with aqueous HCl in 10 min., concentrated in vacuo, 50 ml.

H2O

added, the mixture filtered, the filtrate acidified to pH 1.8, washed twice with EtOAc, LiOH added to pH 3.2, and the mixture kept cold overnight pptd 5.5 g. mono(carbobenzyl-oxyglycyl)-L-cystine (VIII), m. 178-80°, $[\alpha]_{25D} -136^\circ$. Concentration of the mother liquors gave 1 g. addnl. VIII. VIII triturated with 22% HBr in HOAc, kept 1 hr., 10 ml. more acid added, the mixture kept 2 hrs., diluted with Et2O, and the precipitate removed

and

adjusted in 25 ml. H2O to pH 6.2 with Et2NH gave 200 mg. crystalline I.

Addition

of EtOH to the filtrate then precipitated 1.0 g. monoglycyl-L-cystine (IX), m. 180-1°, $[\alpha]_{25D} -189^\circ$ (H2O). IX (600 mg.) in H2O adjusted to pH 7.5 with Na2CO3, diluted to 25 ml., kept 7 days, acidified to pH 6, and concentrated in vacuo gave 50 mg. I, corresponding to 20% disulfide interchange.

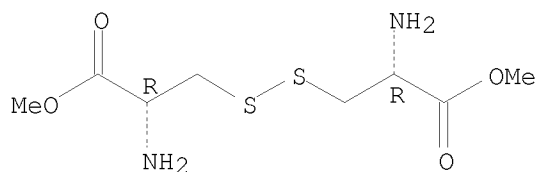
IT 32854-09-4

(Derived from data in the 6th Collective Formula Index (1957-1961))

RN 32854-09-4 CAPLUS

CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 382 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1959:44852 CAPLUS

DOCUMENT NUMBER: 53:44852

ORIGINAL REFERENCE NO.: 53:8007b-i, 8008a-h

TITLE: Synthesis of peptides with streptogenin activity

AUTHOR(S): Merrifield, R. B.; Woolley, D. W.

CORPORATE SOURCE: Rockefeller Inst., New York, NY

SOURCE: Journal of the American Chemical Society (1958), 80, 6635-9

CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB cf. C.A. 50, 5813b; 52, 18242h. Four new pentapeptides and 1 new tetrapeptide are synthesized: L-seryl-L-histidyl-L-leucyl-L-valyl-L-phenylalanine (I), L-cysteinyl-L-histidyl-L-leucyl-L-valyl-L-glutamic acid (disulfide) (II), L-leucyl-L-cysteinyl-L-leucyl-L-valyl-L-glutamic acid (disulfide) (III), L-seryltriglycyl-L-glutamic acid (IV), and L-seryl-L-leucyl-L-valyl-L-glutamic acid (V). These are all closely related to the streptogenin-active peptide L-seryl-L-histidyl-L-leucyl-L-valyl-L-glutamic acid (VI). Their activities in promoting growth of *Lactobacillus casei* are compared and some general conclusions about the structural features needed for this kind of biological action discussed. The tentative conclusion is drawn that in order to have high streptogenin activity, a peptide should contain at least 5 amino acids, one of which should be either serine or cysteine

preferably not N-terminal. Leucine or isoleucine seem to be associated with high activity. The lack of specificity does not necessarily mean that any peptide will be active. Carbobenzyloxy-L-leucyl-L-valine (VII) (10.9 g.) and 7.9 g. di-Et-L-glutamate-HCl by the dicyclohexylcarbodiimide (DCC) method yielded 61% carbobenzyloxy-L-leucyl-L-valyl-L-glutamic acid di-Et ester (VIII), m. 177-8°, $[\alpha]_{27D} -43.3^\circ$ (c 2.6, AcOH). VIII was converted to di-Et L-leucyl-L-valyl-L-glutamate (VIIIa) 0.87 g. of which coupled with 0.50 g. carbobenzyloxy-L-serine (IX) by use of DCC in CH₂Cl₂, the mixture held 24 hrs., diluted with 100 ml. EtOAc, the solution washed, and evaporated to dryness yielded 0.28 g. carbobenzyloxy-L-seryl-L-leucyl-L-valyl-L-glutamic acid di-Et ester (X), m. 212-14°, $[\alpha]_{27D} -46.9^\circ$ (c 1, EtOH). X (200 mg.) in 2 ml. concentrated HCl held 90 min. at 37°, the acid removed in vacuo, the residue in H₂O neutralized with NH₄OH, extracted with EtOAc, concentrated

to 1

ml., and diluted with 25 ml. EtOAc yielded 90 mg. V. 1(or 3)-Benzyl-L-histidine Me ester (9.0 g.) condensed with 12.9 g. carbobenzyloxy-S-benzyl-L-cystine (XI) in 150 ml. CH₂Cl₂ containing 7.1 g. DCC, the mixture held 18 hrs. at 25°, filtered, the filtrate evaporated, the residue in 200 ml. MeOH containing 7 ml. N₂H₄.H₂O refluxed 1 hr. and cooled slowly yielded 16.4 g. carbobenzyloxy-S-benzyl-L-cysteinyl-1(or 3)-benzyl-L-histidine hydrazide (XII), m. 174-5°, $[\alpha]_{20D} -42.7^\circ$ (c 1.6, AcOH). XII (0.50 g.) in 4.25 ml. 0.4N HCl and 4.25 ml. AcOH cooled to -10°, the solution treated dropwise with 60 mg. NaNO₂ in 1 ml. H₂O (cooling), the mixture held 5 min., 0.38 g. di-Et L-leucyl-L-valyl-L-glutamate-HCl, 40 ml. cold CHCl₃, and 10 ml. cold H₂O added, the pH adjusted to 8 by dropwise addition (cooling) of 1:1 Et₃N-CHCl₃, the mixture held 45 min. at 0°, the CHCl₃ layer separated, and evaporated to dryness yielded 0.48 g. carbobenzyloxy-S-benzyl-L-cysteinyl-1(or 3)-benzyl-L-histidyl-L-leucyl-L-valyl-L-glutamic acid di-Et ester (XIII.), m. 166°, resolidified, and m. 187-8°. XIII (250 mg.) in 5 ml. C₅H₅N, 2.5 ml. EtOH, and 1.0 ml. H₂O treated with 0.56 ml. N NaOH, the mixture held 30 min. at 25°, adjusted to pH 7 with HCl, evaporated to dryness, the residue in 30 ml. NH₃ treated with Na until the blue color persisted 5 min., NH₄Cl equivalent to the Na used added, the NH₃ evaporated, the residue in 5 ml. cold 0.1N AcOH adjusted to pH 7, aerated 30 min., extracted with C₆H₆, filtered, desalted, and purified by countercurrent distribution yielded 20 mg. II, m. 210° (decomposition). XIII (240 mg.) heated 90 min. with 10 ml. concentrated HCl at 37°, filtered, the solution evaporated to dryness in vacuo, and the residue treated with Na in NH₃ and aerated yielded 35 mg. II. VII (2.2 g.), 2.2 g. dibenzyl-L-glutamate-HCl, and 0.84 ml. Et₃N in 50 ml. CH₂Cl₂ condensed with DCC yielded 2.6 g. carbobenzyloxy-L-leucyl-L-valyl-L-glutamic acid dibenzyl ester (XIV), m. 153-5°, $[\alpha]_{27D} -18.6^\circ$ (c 2, EtOAc). Carbobenzyloxy-L-leucine (XV) (2 g.) in 40 ml. tetrahydrofuran containing 8.1 g. Et₃N treated at 5° with 0.87 g. ClCO₂Et, the mixture held 15 min., 1.7 g. S-benzyl-L-cysteine (XVI) in 16 ml. 0.5N NaOH added, the solution held 1 hr. at 25°, acidified, evaporated, the oil in 50 ml. EtOAc washed and dried, and diluted with 2 vols. petr. ether yielded 1.7 g. carbobenzyloxy-L-leucyl-S-benzyl-L-cysteine (XVII), m. 159-60°, $[\alpha]_{27D} -40.8^\circ$ (c. 2, EtOH). XVI Et ester-HCl (1.05 g.) in 20 ml. CH₂Cl₂ treated with 0.53 ml. Et₃N, 1.00 g. XV added followed by 0.78 g. DCC, the mixture held 3 hrs., and processed yielded 0.97 g. XVII Et ester (XVIII), m. 114°, $[\alpha]_{20D} -58.9^\circ$ (c 2, MeOH). XVIII (0.73 g.) refluxed 1 hr. with 0.5 ml. N₂H₄.H₂O in 5 ml. MeOH and the solution evaporated to dryness over H₂SO₄ yielded 0.60 g. carbobenzyloxy-L-leucyl-S-benzyl-L-cysteine hydrazide (XIX), m. 124-6°, $[\alpha]_{20D} -36.2^\circ$ (c 2, MeOH). XIV (0.56 g.) treated 1 hr. at 25° with 6.0 ml. 10% HBr, the mixture added dropwise to 200 ml. cold M bicarbonate, the mixture extracted with CH₂Cl₂, the extract concentrated in vacuo to 40 ml., treated with 0.38 g. XVII followed by 0.27 g. DCC, the solution held 20 hrs., evaporated to dryness in vacuo, the residue triturated with 10 ml. EtOAc, filtered, and the filtrate diluted with petr.

ether yielded 0.37 g. carbo-benzyloxy-L-leucyl-S-benzyl-L-cysteinyl-L-leucyl-L-valyl-L-glutamic acid (XX). The mixed anhydride method yielded 20% XX. XX (109 mg.) in 30 ml. NH₃ treated with Na, NH₄Cl added, the NH₃ removed in vacuo, the residue dissolved in 0.5N HCl, filtered, the filtrate adjusted to pH 3.5, and centrifuged yielded 18 mg. III. An effort to prepare III from XIX and VIIa at 4° yielded a small amount of the di-Et ester of XX; mixing the azide and ester at 0° yielded a rearranged product. Glycylglycylglycine Et ester-HCl (4.0 g.) in 50 ml. H₂O treated dropwise at 0° with N NaOH to pH 9.0, the solution concentrated at 25° to 5 ml., diluted with absolute EtOH, evaporated to dryness, the residue in CHCl₃ dried, treated with 2.1 g. carbobenzyloxy-L-serine azide, held 1 hr. at 0°, 72 hrs. at 25°, and filtered yielded 3.2 g. carbobenzyloxy-L-serylglycylglycylglycine Et ester (XXI), m. 176-8°, [α]_{20D} -9.3°. XXI (3.2 g.) in 250 ml. hot EtOH treated with 5.0 ml. N₂H₄.H₂O, and the solution held 24 hrs. at 25° yielded 2.2 g. carbobenzyloxy-L-serylglycylglycylglycine hydrazide(XXII), m. 217-19°, [α]_{27D} -9.6° (c 2, N HCl). XXII (1.0 g.) in 8 ml. N HCl diluted to 40 ml. with H₂O, treated at 0° with 2 ml. 10% aqueous NaNO₂, filtered, the precipitate dissolved in 5 ml. cold HCONMe₂, held 24 hrs. at 25°, the solvent removed in vacuo at 40°, the residue dissolved in warm CHCl₃, washed with N HCl, and the solution diluted with petr. ether and held 24 hrs. yielded 0.39 g. carbobenzyloxy-L-seryltriglycyl-L-glutamic acid di-Et ester (XXIII), m. 138-40°, [α]_{27D} -9.6° (c 2, EtOH). XXIII (46 mg.) in 6 ml. 0.5N MeOH.HCl hydrogenated over 50 mg. 5% Pd-C 2 hrs. at 25° and 1 atmospheric yielded IV. L-Phenylalanine treated at 100° with PhCH₂OH saturated with HCl, the product dried by azeotropic distillation with

C6H6,

the ester-HCl salt converted to the free base with Et₃N in CH₂Cl₂, condensed with 1.09 g. VII in the presence of DCC, and allowed to stand 24 hrs. and diluted with petr. ether yielded 1.42 g. carbobenzyloxy-L-leucyl-L-valyl-L-phenylalanine benzyl ester (XXIV), m. 158-60°, [α]_{28D} -11.0° (c 2, EtOAc). XXIV (0.60 g.) in 4 ml. 10% HBr-AcOH 1 hr. at 25° added dropwise into 100 ml. cold M bicarbonate, the L-leucyl-L-valyl-L-phenylalanine benzyl ester (XXV) extracted into EtOAc, carbobenzyloxy-L-seryl-L-histidine hydrazide (0.39 g.) in 10 ml. N HCl plus 3 ml. EtOH converted to the azide at -10°, 25 ml. cold EtOAc and 1.8 g. K₂CO₃ in 2 ml. H₂O added, XXV added in EtOAc, the organic layer separated immediately, treated with anhydrous MgSO₄, held 3

hrs.

at 0° and 72 hrs. at room temperature, 100 ml. EtOAc added, the mixture filtered, and the product precipitated with CHCl₃ yielded 0.36 g. carbobenzyloxy-L-seryl-L-histidyl-L-leucyl-L-valyl-L-phenylalanine benzyl ester (XXVI), m. 213-15°, [α]_{27D} -43.8° (c 1, EtOH). XXVI (50 mg.) in 10 ml. EtOH containing 1 ml. AcOH hydrogenated 2 hrs. at 25° and 1 atmospheric over 50 mg. 5% Pd-C, the mixture filtered, the filtrate evaporated to dryness, dissolved in 5 ml. H₂O, and filtered yielded I.

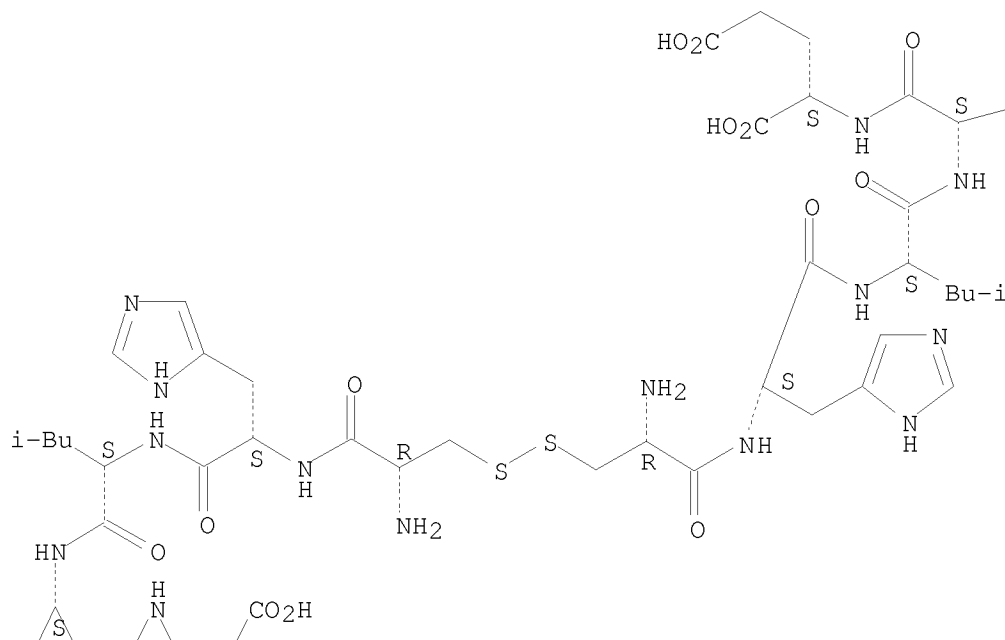
IT 122472-64-4

(Derived from data in the 6th Collective Formula Index (1957-1961))

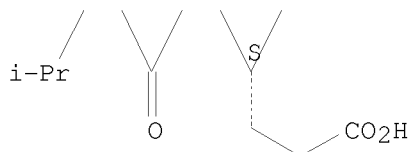
RN 122472-64-4 CAPLUS

CN L-Glutamic acid, L-cysteinyl-L-histidyl-L-leucyl-L-valyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



—Pr-i



L5 ANSWER 383 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1959:44851 CAPLUS

DOCUMENT NUMBER: 53:44851

ORIGINAL REFERENCE NO.: 53:8006h-i, 8007a-b

TITLE: N-Substituted amides of phosphoric and phosphorous acids and their use in the formation of peptide links

AUTHOR(S): Goldschmidt, Stefan; Krauss, H. L.

CORPORATE SOURCE: Tech. Hochschule, Munich, Germany

SOURCE: Angewandte Chemie (1955), 67, 471-5

CODEN: ANCEAD; ISSN: 0044-8249

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB cf. Grimm, et al., C.A. 40, 34107. Amino and imino derivs. of P were prepared as intermediates in the preparation of peptides. Aromatic amines RNH₂ (I) with PCl₃ gave compds. RN(PCl₂)₂ (II), which on heating were converted to RN(P:NR)₂ (III). II reacted with I to give (RNHP:NR)₂ (IV), converted

by heating to III. Esters $\text{ROP}(\text{Cl})_2$ reacted with I to give stable compds. $\text{ROP}(\text{NR})$ and unstable compds. $\text{ROP}(\text{NHR})_2$, which spontaneously form IV. Likewise, esters $(\text{RO})_2\text{PCl}$ readily formed the ester amides $(\text{RO})_2\text{PNHR}$. In like manner derivs. of pentavalent P were prepared: $(\text{RNH})_3\text{PO}$, $\text{ROP}(\text{O})\text{ClNHR}$, $\text{ROP}(\text{O})(\text{NHR})_2$, $\text{HOP}(\text{O})(\text{NHR})_2$, $(\text{RO})_2\text{P}(\text{O})\text{NHR}$, $\text{ROP}(\text{O})\text{OHNHR}$, and $(\text{HO})_2\text{P}(\text{O})\text{NHR}$. Amino acid esters with PCl_3 in pyridine form phosphorazo compds. like IV at room temperature and these react further with amino acids in which the amino group is protected to give peptides. Isolation of the intermediate was not necessary. The authors claim for their method minimal expenditure of material, yields averaging 80%, preservation of optical activity, a general applicability of the method for peptide esters, and direct use of ester hydrochlorides for synthesis. A large number of known di-, tri-, and tetrapeptides prepared is listed.

IT 122472-64-4

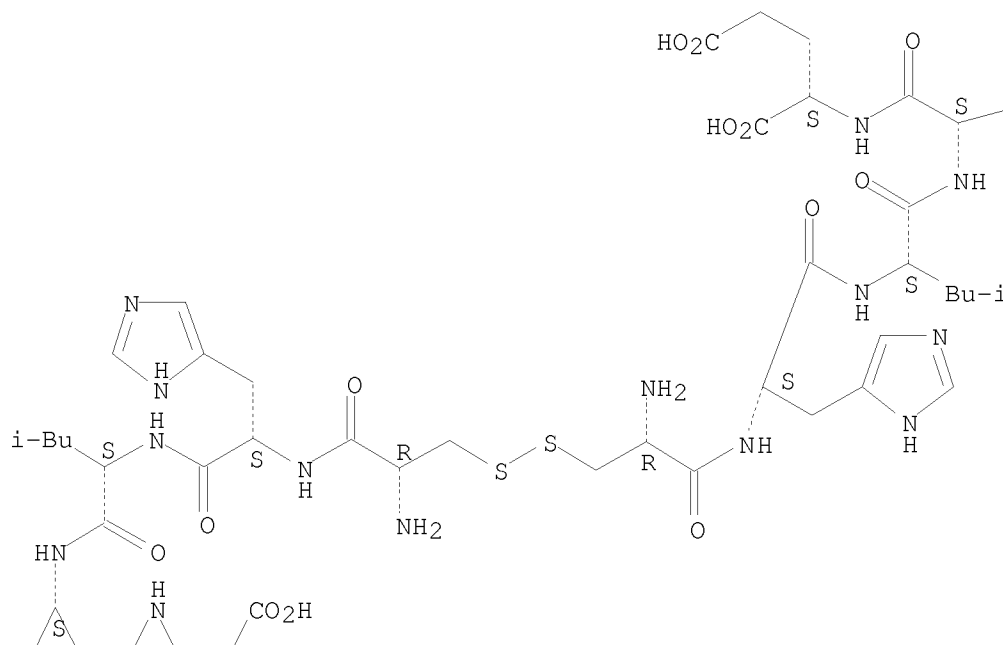
(Derived from data in the 6th Collective Formula Index (1957-1961))

RN 122472-64-4 CAPLUS

CN L-Glutamic acid, L-cysteinyl-L-histidyl-L-leucyl-L-valyl-, bimol. (1-1')-disulfide (9CI) (CA INDEX NAME)

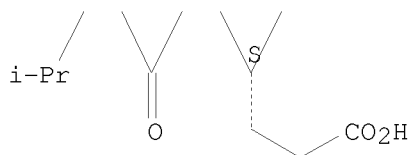
Absolute stereochemistry.

PAGE 1-A



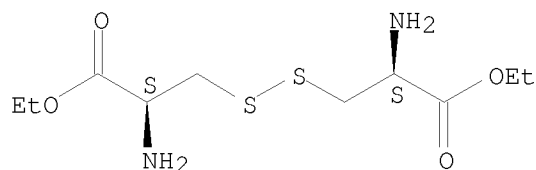
PAGE 1-B

Pr-i



L5 ANSWER 384 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1959:41762 CAPLUS
 DOCUMENT NUMBER: 53:41762
 ORIGINAL REFERENCE NO.: 53:7511c-d
 TITLE: Histophile cutaneous action of cytamines, diadermic esters of essential amino acids
 AUTHOR(S): Rovesti, Paolo
 CORPORATE SOURCE: Ist. ric. derivati vegetali, Milan
 SOURCE: Riv. ital. essenze profumi piante offic. oli vegetali saponi (1958), 40, 508-10
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 AB Cytamine is the term for any amino acid substance which can be directly absorbed by tissue cells, especially for skin nutrition. Liposol. Et esters of histidine, valine, leucine, lysine, glutamic acid, and cystine; cholesterol esters of valine and histidine; and Et esters of protein (tissue, skin, hair, keratin, or blood) hydrolyzates were prepared and used for preparing skin creams. Favorable results are reported, especially with proteolyzate esters.
 IT 444996-04-7, Cystine, ethyl ester
 (for skin nutrient creams)
 RN 444996-04-7 CAPLUS
 CN D-Cystine, 1,1'-diethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 385 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1959:29525 CAPLUS
 DOCUMENT NUMBER: 53:29525
 ORIGINAL REFERENCE NO.: 53:5384c-e
 TITLE: Mechanism of penicillin biosynthesis using L-cystinyl-L-valine-carboxy-C14 and L-cystinyl-D-valine-carboxy-C14
 AUTHOR(S): Arnstein, H. R. V.; Morris, D.
 CORPORATE SOURCE: Natl. Inst. Med. Research, London
 SOURCE: Biochemical Journal (1959), 71, 8P
 CODEN: BIJOAK; ISSN: 0264-6021
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 AB cf. C.A. 52, 5527a, 18594a. L-cystinyl-L- and L-cystinyl-D-valine-carboxy-C14 were synthesized from S-benzyl-N-benzoyloxycarbonyl-L-cysteine and D- or L-valine-carboxy-C14 ethyl ester by using dicyclohexylcarbodiimide (Sheehan and Hess, C.A. 50, 2484b), with subsequent saponification and reduction with Li in liquid

NH3. Uptake of both peptides into freshly harvested *Penicillium chrysogenum* WIS 51-20 was measured by the decrease in radioactivity in the medium, and incorporation of radioactivity into both penicillin and mycelial protein was determined. At all times the penicillin/protein radioactivity ratio was higher with the peptide as precursor than with valine. The marked difference in penicillin/protein radioactivity ratios between peptide and valine suggests that utilization of peptide for penicillin synthesis is not a result of its hydrolysis to free valine.

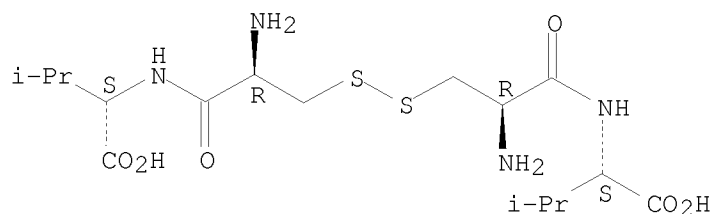
IT 21141-84-4 71301-35-4

(Derived from data in the 6th Collective Formula Index (1957-1961))

RN 21141-84-4 CAPLUS

CN L-Valine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

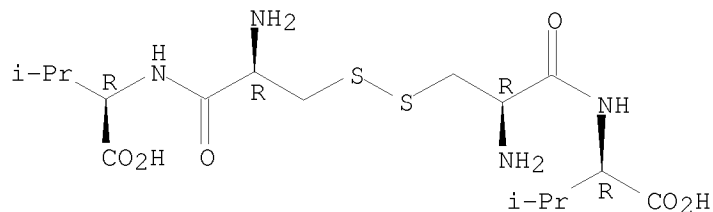
Absolute stereochemistry.



RN 71301-35-4 CAPLUS

CN D-Valine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



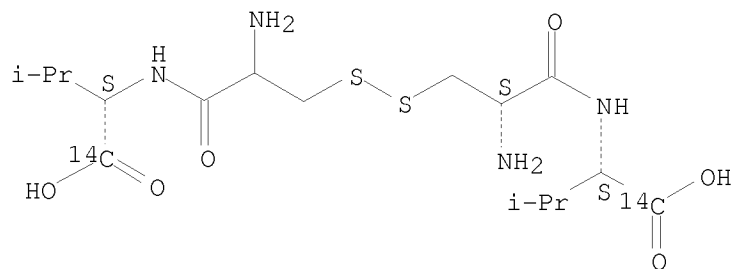
IT 887905-40-0P, Valine-1-C14, N,N'-L-cystyldi-, L-
887905-43-3P, Valine-1-C14, N,N'-L-cystyldi-, D-
RL: PREP (Preparation)

(preparation of)

RN 887905-40-0 CAPLUS

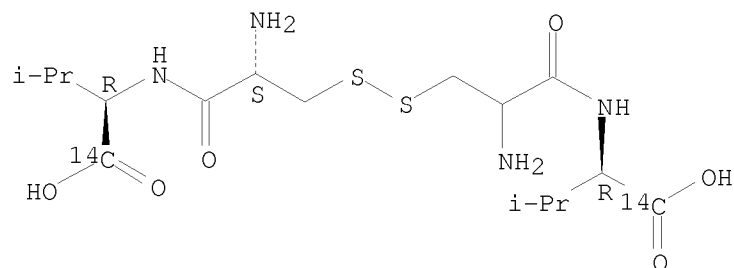
CN INDEX NAME NOT YET ASSIGNED

Absolute stereochemistry.



RN 887905-43-3 CAPLUS
CN INDEX NAME NOT YET ASSIGNED

Absolute stereochemistry.



L5 ANSWER 386 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1959:29524 CAPLUS
DOCUMENT NUMBER: 53:29524
ORIGINAL REFERENCE NO.: 53:5384a-c
TITLE: Evaluation of the routes of glucose utilization by
Sarcina lutea
AUTHOR(S): Dawes, E. A.; Holms, W. H.
CORPORATE SOURCE: Univ. Glasgow, UK
SOURCE: Biochemical Journal (1957), 66, 24P-25P
CODEN: BIJOAK; ISSN: 0264-6021
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

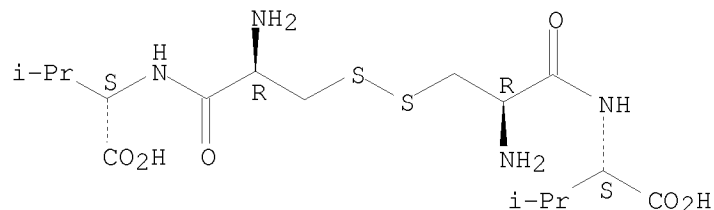
AB cf. C.A. 52, 18651h. In the presence of $5.6 \times 10^{-3}M$ arsenite, pyruvic acid can be isolated during glucose oxidation by intact cells; this exptl. system has been used to evaluate the routes of glucose catabolism by an isotopic technique. The hexose monophosphate oxidative pathway degrades 1/2 of the glucose oxidized. The small amount of radioactivity found in the Embden-Meyerhof-Parnas glycolytic sequence is considered the result of randomization of the C14 by the two schemes or by C14O2 fixation via the Wood-Werkman scheme. Both schemes are equally important.

IT 21141-84-4 71301-35-4
(Derived from data in the 6th Collective Formula Index (1957-1961))

RN 21141-84-4 CAPLUS

CN L-Valine, L-cysteinyl-, bimol. (1->1')-disulfide (9CI) (CA INDEX NAME)

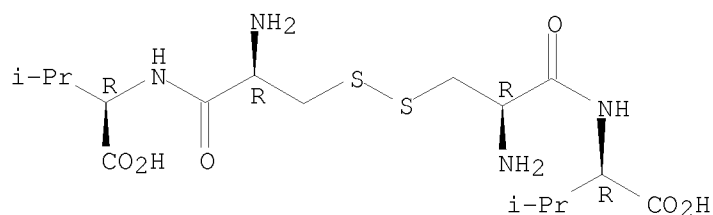
Absolute stereochemistry.



RN 71301-35-4 CAPLUS

CN D-Valine, L-cysteinyl-, bimol. (1->1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 387 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1958:77032 CAPLUS

DOCUMENT NUMBER: 52:77032

ORIGINAL REFERENCE NO.: 52:13632e-i,13633a-c

TITLE: Total synthesis of sphingosine

AUTHOR(S): Shapiro, D.; Segal, H.; Flowers, H. M.

CORPORATE SOURCE: Weizmann Inst. Sci., Rehovoth, Israel

SOURCE: Journal of the American Chemical Society (1958), 80, 1194-7

CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

OTHER SOURCE(S): CASREACT 52:77032

AB Myristaldehyde (43 g.) added to 24 g. CH₂(CO₂H)₂ in 50 cc. pyridine below 35°, treated with 1.5 cc. pyridine, heated 1 hr. at 50-5° and 3 hrs. at 80-90°, poured into iced H₂O, treated with 50 cc. concentrated HCl, extracted with Et₂O, and the oily residue from the extract dissolved in 75 cc. ligroine (75 cc.) and cooled overnight gave 35 g. trans-2-hexadecenoic acid (I), m. 48-9°. I (57 g.) in 90 cc. warm petr. ether treated during 15 min. with stirring with 40 cc. SOCl₂, refluxed 4 hrs., evaporated in vacuo, and the residue distilled twice with 50-cc.

portions of petr. ether yielded 55 g. acid chloride (II) of I, b_{0.05} 145-8°, n_D²⁵ 1.4644. AcCH₂CO₂Et (56 g.) added to 8.46 g. powdered Na in 1250 cc. Et₂O, stirred 4 hrs. at room temperature, cooled to 5°, treated with 94 g. II with stirring during 2-3 min., stirred 16-18 hrs. at room temperature, poured into H₂O and ice at 5°, treated with 125 cc. 20% H₂SO₄, the Et₂O layer washed neutral, dried, and evaporated, and the residue dissolved in 2 volume EtOH, refrigerated overnight, and filtered yielded 80 g. C₁₃H₂₇CH:CHCOCHAcCO₂Et (III), m. 34-5.5° (EtOH). PhNH₂ (28 g.) in 100 cc. HCl (d. 1.19) and 330 cc. H₂O treated with 21.5 g. NaNO₂ in 40 cc. H₂O and the mixture neutralized with 36 g. Na₂CO₃ in 360 cc. H₂O at -5° gave a neutralized PhN₂Cl solution (IV). III (14.4 g.) in 1 l. EtOH treated at 12° with 32 cc. aqueous NaOAc (45 g. NaOAc in 50 cc. H₂O) and 20 g. NH₄Cl, the mixture treated immediately with 120 cc. IV during 2-3 min. with stirring, stirred 1 hr. at 8-10°, refrigerated overnight, filtered, and the residue washed and dried gave 14-15 g. C₁₃H₂₇CH:CHCOC(:NNHPh)CO₂Et (V), m. 37-9° (petr. ether). V (11.25 g.) in 100 cc. glacial AcOH added dropwise with stirring during 75-90 min. to 15 g. Zn dust in 60 cc. glacial AcOH and 25 cc. Ac₂O at 20-2°, the mixture stirred until the yellow color had completely disappeared and filtered, the residue washed with glacial AcOH, the combined filtrates poured into iced H₂O, and the precipitate washed, dried, and recrystd. from

MeOH

yielded 9.3 g. C₁₃H₂₇CH:CHCOCH(NHAc)CO₂Et (VI), m. 63-5° (MeOH).

VI (10 g.) in 400 cc. MeOH treated at 10-15° with 0.5 g. NaBH₄ in

10 cc. H₂O containing 4 drops N NaOH, kept 0.5 hr. at room temperature, poured into

300 cc. iced H₂O and 300 cc. saturated aqueous NaCl, extracted with Et₂O, the extracted

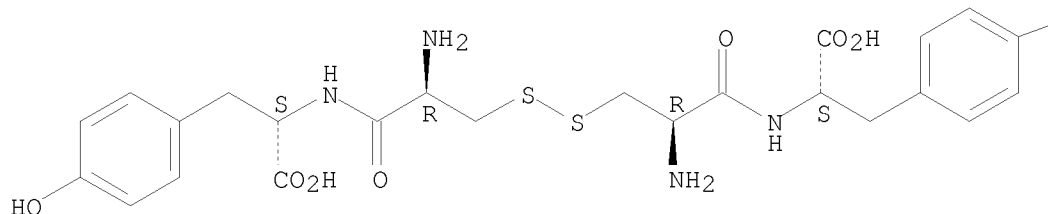
worked up, and the residue crystallized from ligroine yielded 4.8 g.

erythro-C₁₃H₂₇CH:CHCH(OH)CH(NHAc)CO₂Et (VII), m. 64-7°. VII (3.6 g.) refluxed 2 hrs. with 30 cc. 5% HCl and 30 cc. dioxane, cooled, treated with 30 cc. 6N HCl, refrigerated several hrs., extracted in the cold twice with Et₂O, refrigerated overnight, filtered quickly, and the residue dried in vacuo over P₂O₅ yielded 1.5-1.8 g.
 trans-erythro-C₁₃H₂₇CH:CHCH(OH)CH(NH₂)CO₂Et.HCl (VIII.HCl), m. 110-12° (dioxane-tetrahydrofuran). VIII.HCl (0.7 g.) in 35 cc. dry tetrahydrofuran added with stirring during 20 min. to 2 g. LiAlH₄ in 50 cc. Et₂O, refluxed 1.5 hrs., and processed in the usual manner yielded 0.35 g. trans-DL-erythro-C₁₃H₂₇CH:CHCH(OH)CH(NH₂)CH₂OH (IX), m. 71-3° (EtOAc). IX with Ac₂O and pyridine gave the triacetate, m. 90-1° (petr. ether). IX (0.5 g.) in 15 cc. EtOH added to 0.250 g. D-glutamic acid in 30 cc. warm 50% EtOH, evaporated to dryness, the residue dissolved in 80 cc. dilute EtOH (100 cc. EtOH and 10 cc. H₂O), the solution kept at 22° overnight, and the deposit recrystd. 3 times from dilute EtOH gave the pure glutamate, m. 136-8°; the salt dissolved in warm H₂O and a little EtOH, made alkaline with N NaOH, extracted with Et₂O, and the residual crude D-IX treated with Ac₂O-pyridine gave the triacetate, m. 103.5-104°, [α]_D²⁴ -12.8°.

IT 7369-94-0
 (Derived from data in the 6th Collective Formula Index (1957-1961))
 RN 7369-94-0 CAPLUS
 CN L-Tyrosine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

—OH

L5 ANSWER 388 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1958:77031 CAPLUS
 DOCUMENT NUMBER: 52:77031
 ORIGINAL REFERENCE NO.: 52:13631f-i,13632a-e
 TITLE: Peptide synthesis. V. Preparation and use of O-benzyl-L-tyrosine in the synthesis of peptides
 AUTHOR(S): Wunsch, Erich; Fries, Gert; Zwick, Anton
 CORPORATE SOURCE: Max Planck Inst., Munich, Germany
 SOURCE: Chemische Berichte (1958), 91, 542-7
 CODEN: CHBEAM; ISSN: 0009-2940
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 OTHER SOURCE(S): CASREACT 52:77031
 AB L-Tyrosine-Cu complex (62.4 g.) in 570 cc. H₂O and 1860 cc. MeOH dissolved with 98.1 cc. 3N NaOH, treated with 35 cc. PhCH₂Br, shaken briefly, kept 3 hrs. at room temperature and 2 hrs. at 35°, cooled, and suction filtered, and the residue washed with 1:3.5 MeOH-H₂O, and dried at 60° gave 57 g. Cu complex; a 40.4-g. portion powdered, suspended in H₂O, treated

with excess H₂S, heated to boiling, cooled, mixed with 120 cc. N NaOH, and filtered, the filtrate stirred into a slight excess of N HCl and filtered, and the residue washed with H₂O and dried over KOH gave 31 g.

O-benzyl-L-tyrosine (I), m. 223° with sintering at 210°.

L-Tyrosine (72.4 g.) in 200 cc. 2N NaOH treated with 49.9 g. CuSO₄·5H₂O, heated some time on the water bath, cooled, diluted with 1500 cc. MeOH and 200 cc. 2N NaOH, treated with 50 cc. PhCH₂Br, shaken 1 hr. at 25°, and worked up in the usual manner gave 88-96 g. I Cu complex which ground up several times with N HCl, filtered, washed with H₂O, dilute NH₄OH, and Me₂CO-Et₂O, and recrystd. from 80% AcOH yielded 66-72 g. I, [α]_{20D} -9.9 ± 1° (c 1, 80% AcOH). I (10 g.) and 250 cc. N HCl-MeOH

kept at room temperature overnight and evaporated in vacuo, and this procedure repeated twice gave 11 g. Me ester of I.HCl (II), needles, m. 181°,

[α]_{25D} 11.5° (c 4, MeOH). L-Tyrosine (2 g.) in 20 cc. MeOH saturated with dry HCl and cooled gave 2.1 g. L-tyrosine Me ester-HCl (III), needles, m. 190° (MeOH-Et₂O), [α]_{20D} 12.9 ± 0.5° (c

2, MeOH). II (3.22 g.) in 50 cc. absolute MeOH hydrogenated over Pd black, filtered, and evaporated gave 2.1 g. III. I (10 g.) in 400 cc. H₂O dissolved with 12.4 g. 3N NaOH, treated during 45 min. with 6.5 g. PhCH₂OCOC₂H₅ and 12.4 cc. 3N NaOH, acidified with 40 cc. N HCl, and filtered, the residue dissolved in EtOAc, and the solution washed, dried, and evaporated gave 12.4 g. N-carbobenzyloxy derivative (IV) of I, needles, m. 116.5° (EtOAc-petr. ether), [α]_{18D} 11.5 ± 2° (c 0.5, glacial AcOH). IV (8.2

g.) added to 2.8 g. EtO₂CCH₂NH₂.HCl and 0.87 cc. PCl₃ in 100 cc. pyridine, heated 3 hrs. on the water bath, and evaporated in vacuo, the residue partitioned between EtOAc and dilute HCl, and the organic layer worked up gave 8.5 g. Et ester (V) of N-carbobenzyloxy-O-benzyl-L-tyrosylglycine (VI), m. 137° (EtOAc-petr. ether). V (6 g.) in 5:1 dioxane-H₂O stirred 3 hrs. with 12.6 cc. N NaOH in portions of 0.2 cc., acidified with 12.6 cc. N HCl, and evaporated in vacuo, and the residue treated with a little EtOAc and recrystd. from aqueous MeOH gave 5.25 g. VI, m. 163.5°. VI (4.6 g.) in 200 cc. aqueous dioxane hydrogenated in the presence of 0.5 cc. glacial AcOH and 0.5 g. Pd black yielded 2.2 g. L-tyrosylglycine, needles, [α]_{25D} 69.1 ± 1° (c 1, H₂O containing 1 equivalent HCl).

PhCH₂CONHCH₂CO₂H (4.5 g.) with 6.44 g. II and 0.87 cc. PCl₃ in 150 cc. pyridine gave 8.8 g. carbobenzyloxyglycyl-O-benzyl-L-tyrosine Me ester (VII), needles, m. 81° (EtOAc-petr. ether). VII (6 g.) saponified in the usual manner gave 5.5 g. carbobenzyloxyglycyl-O-benzyl-L-tyrosine (VIII), m. 142° (EtOAc-petr. ether). VIII (4.6 g.) hydrogenated in the usual manner gave 2.2 g. glycyl-L-tyrosine, needles, [α]_{25D} 43.5 ± 1° (c 1, H₂O and 1 equivalent HCl). Carbobenzyloxyleucine (6.6 g.) with 8.5 g. II and 1.08 g. PCl₃ in pyridine yielded 11.6 g. Me ester (IX) of carbobenzyloxy-L-leucyl-O-benzyl-L-tyrosine (X), needles, m. 109° (EtOAc-petr. ether). IX (5.32 g.) in aqueous dioxane saponified during 0.5 hr. with 10 cc. N NaOH at room temperature, treated with an

equivalent

amount of N HCl, and evaporated in vacuo, the residue treated with 200 cc.

0.05N

NaOH and filtered, and the filtrate acidified gave 4.15-4.65 g. X, m. 174°. X (1.85 g.) in aqueous dioxane hydrogenated gave 0.75 g. L-leucyl-L-tyrosine, needles, [α]_{25D} 22.6 ± 1° (c 1, H₂O).

N-Carbobenzyloxy-S-benzylcysteine (17.4 g.) with 16.1 g. II and 2.18 cc. PCl₃ in pyridine yielded 25 g. Me ester (XI) of

N-carbobenzyloxy-S-benzyl-L-cysteinyl-O-benzyl-L-tyrosine (XII), m. 150.5° (EtOAc-petr. ether). XII (12.25 g.) in aqueous dioxane stirred with 20 cc. N NaOH, acidified with N HCl, and evaporated in vacuo, the residue dissolved in warm EtOAc, the solution extracted with aqueous KHCO₃, and the

extract

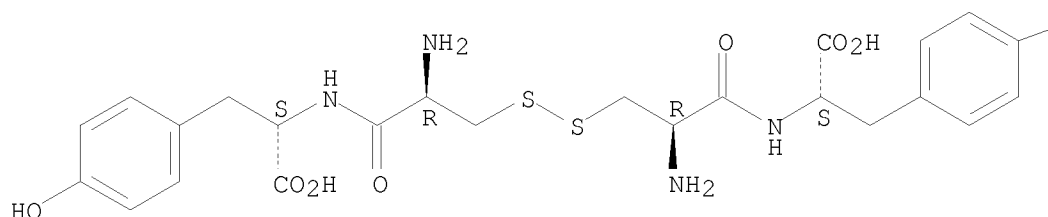
acidified gave 10.3 g. XII, m. 170.5° (EtOAc-petr. ether). XII (2.7 g.) in 100 cc. liquid NH₃ treated with stirring under N with 370 mg. Na in small pieces, the excess Na destroyed after 20 min. with (NH₄)₂SO₄, and the product isolated in the usual manner yielded 1.3 g.

L-cystinylbis-L-tyrosine, needles, m. 292° (decomposition) (aqueous EtOH),

[α]25D $-50.6 \pm 1^\circ$ (c 1, N HCl).
 IT 7369-94-0P, Tyrosine, N,N-L-cystyl-di-, L-
 RL: PREP (Preparation)
 (preparation of)
 RN 7369-94-0 CAPLUS
 CN L-Tyrosine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (9CI) (CA INDEX
 NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

—OH

L5 ANSWER 389 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1958:35006 CAPLUS
 DOCUMENT NUMBER: 52:35006
 ORIGINAL REFERENCE NO.: 52:6257i,6258a-c
 TITLE: Synthesis of some derivatives of β -phenylcysteine
 AUTHOR(S): Sycheva, T. P.; Lebedeva, I. V.; Trupp, T. Kh.;
 Shchukina, M. N.
 CORPORATE SOURCE: S. Ordzhonikidze All-Union Chem. Pharm. Research
 Inst., Moscow
 SOURCE: Zhurnal Obshchei Khimii (1957), 27, 2287-92
 CODEN: ZOKHA4; ISSN: 0044-460X
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 AB cf. Brown, et al., C.A. 49, 9093b. Passage of HCl into solution of
 phenylcysteine-HCl (I) in absolute EtOH gave the Et ester, m. 149-50°.
 This with Ph3CCl in CHCl3 gave the Et ester of N-tritylphenylcysteine, m.
 154-6° (EtOH). I treated dropwise to neutral reaction with 18%
 NaOH gave after air blowing 1 hr. diphenylcystine, decompose 205-6°.
 Air blowing of solution of I Et ester gave diphenylcystine Et ester-2HCl,
 decompose 191°, which with BzCl gave Et ester of
 N,N'-dibenzoyldiphenylcystine, m. 147-9°. To 3 g. phenylserine Me
 ester-HCl and 30 ml. AcCl was added slowly 4.5 g. PC15 and after shaking 1
 hr. the mixture was chilled overnight yielding 0.6 g.
 β -chlorophenylalanine Me ester-HCl, decompose 177° (EtOH-Et2O).
 p-Nitrophenylserine Et ester-HCl with BzCl and Na2CO3 gave
 N-benzoyl-p-nitrophenylserine Et ester, m. 158-9°. Heating 5 g.
 N-benzoylphenylserine Et ester with 1.4 g. P2S5 to 110° 1.5 hrs.
 gave after 8 hrs. at 130° a mass which treated with EtOH, then with
 H2O and extracted with Et2O gave an oil which refluxed 7 hrs. with
 concentrated HCl
 gave a low yield of C16H13O2NS.HCl, m. 165-6°, which treated with N
 NaOH, and rapidly acidified with AcOH gave
 2,5-diphenyl-4-thiazolinecarboxylic acid, m. 140°. Phenylserine Me
 ester-HCl and Et3N in CHCl3 at 0°, followed by Ph3CCl gave after
 1.5 days at room temperature N-tritylphenylserine Me ester, m. 136-8°.

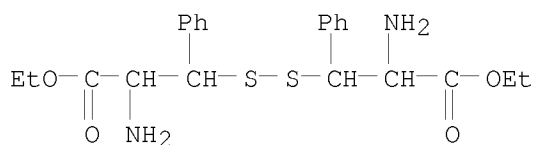
To 30 ml. liquid NH₃, 2.56 g. I, and 1.23 g. diphenylcystine was added at -40° 0.9 g. Na, followed by 1.5 ml. MeI and after 2 hrs. the mixture yielded 2.5 g. S-methylphenylcysteine, m. 158-9°; HCl salt, m. 165-6°. Similar use of EtBr gave S-ethylphenylcysteine-HCl, m. 168-70°; the free amino acid, m. 153-4°. Similarly was prepared S-butylphenylcysteine, m. 157-9°; HCl salt, m. 155-7°. Attempts to prepare phenylcysteine from chlorocinnamic acid and CS(NH₂)₂ failed.

IT 113325-64-7

(Derived from data in the 6th Collective Formula Index (1957-1961))

RN 113325-64-7 CAPLUS

CN Alanine, 3,3'-dithiobis[3-phenyl-, diethyl ester, dihydrochloride (6CI)
(CA INDEX NAME)



● 2 HCl

L5 ANSWER 390 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1958:31423 CAPLUS

DOCUMENT NUMBER: 52:31423

ORIGINAL REFERENCE NO.: 52:5661d-g

TITLE: Chemical protection against ionizing radiation. III.
Mercaptoalkylguanidines and related isothiuronium
compounds with protective activity

AUTHOR(S): Shapira, Raymond; Doherty, David G.; Burnett, W. T.,
Jr.

CORPORATE SOURCE: Oak Ridge Natl. Lab., Oak Ridge, TN

SOURCE: Radiation Research (1957), 7, 22-34

CODEN: RAREAE; ISSN: 0033-7587

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB cf. C.A. 49, 14195g. Series of 16 isothiuronium compds., 27 amino- or substituted aminoalkylisothiuronium salts, 13 thiazolines, and 18 mercaptoalkylguanidines were tested for toxicity and screened for protective activity against a lethal dose of x-radiation in mice. 2-Mercaptoethylguanidine (I) and 3-mercaptopropylguanidine (II) were more active and less toxic than HSC₂H₄NH₂ with a therapeutic ratio of 2 to 1. I and II were both readily formed from the corresponding aminoalkylisothiuronium salts by adjusting their aqueous solns. to pH 7, by an intratransguanylation reaction probably involving an intermediate 2,2-diaminothiazolidine since S-(2-aminoethyl)isothiuronium-HBr bromide gave some 2-aminothiazoline on standing in moist air or in solution at pH 2.5 to 3.0 (cf. C.A. 52, 5299a. It was believed that those mercaptoalkylguanidines capable of forming five- and six-membered cyclic intermediates will be the most active protective agents.

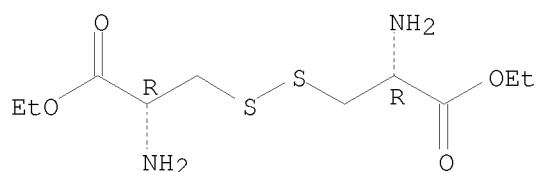
IT 583-89-1, Cystine, diethyl ester

(x-ray protective activity of)

RN 583-89-1 CAPLUS

CN L-Cystine, 1,1'-diethyl ester (CA INDEX NAME)

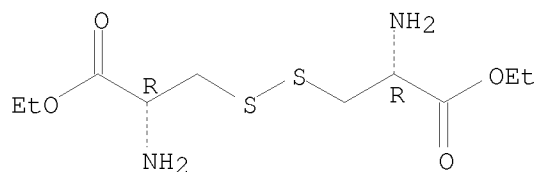
Absolute stereochemistry.



L5 ANSWER 391 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1958:31422 CAPLUS
 DOCUMENT NUMBER: 52:31422
 ORIGINAL REFERENCE NO.: 52:5661c-d
 TITLE: Chemical protection against ionizing radiation. II. Mercaptoalkylamines and related compounds with protective activity
 AUTHOR(S): Doherty, David G.; Burnett, W. T., Jr.; Shapira, Raymond
 CORPORATE SOURCE: Oak Ridge Natl. Lab., Oak Ridge, TN
 SOURCE: Radiation Research (1957), 7, 13-21
 CODEN: RAREAE; ISSN: 0033-7587
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable

AB The most effective of 30 amino- and substituted mercaptoalkylamines against the lethal effect of 800 r. of x-irradiation in mice were 2-mercaptoethylamine, its disulfide and 3-mercaptopropylamine. It was postulated that these compds. react directly with radiation-induced radicals to form resonance-stabilized hybrids that react preferentially with other radicals and not with sensitive biol. material. An NH₂ group not more than 3-C atoms from a -SH or S-S group was essential for activity.
 IT 583-89-1, Cystine, diethyl ester
 (x-ray protective activity of)
 RN 583-89-1 CAPLUS
 CN L-Cystine, 1,1'-diethyl ester (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 392 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1958:20841 CAPLUS
 DOCUMENT NUMBER: 52:20841
 ORIGINAL REFERENCE NO.: 52:3685i,3686a-i,3687a
 TITLE: Preparation of L-cystinyl and L-cysteinyl peptides through catalytic hydrogenation of intermediates
 AUTHOR(S): Berse, Casimir; Boucher, Roger; Piche, Lucien
 CORPORATE SOURCE: Univ. Montreal, Can.
 SOURCE: Journal of Organic Chemistry (1957), 22, 805-8
 CODEN: JOCEAH; ISSN: 0022-3263
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 AB cf. C.A. 51, 7304g. By replacement of the classical PhCH₂O₂C group by the more labile p-O₂NC₆H₄CH₂O₂C radical to protect α-NH₂ groups, peptides containing cystine (I) or cysteine (II) were prepared by the general method of catalytic hydrogenolysis of intermediates. Arrest of the

reduction at the cystine stage and removal of the p-O₂NC₆H₄CH₂O₂C radical from the mercapto group of II were found possible. Unless otherwise indicated the m.ps. were uncor. I (12 g.) in 50 ml. 2N NaOH stirred vigorously at 0° with 20 ml. dioxane, treated in 5 portions in 30 min. with 33 g. p-O₂NC₆H₄CH₂O₂CCl (III) in 150 ml. dioxane and 100 ml. 2N NaOH, the stirring continued 30 min., the mixture diluted at room temperature with 300 ml. H₂O, the alkaline solution washed twice with EtOAc, acidified to Congo red with N HCl, extracted 4 times with 100 ml. EtOAc, and the oily product crystallized from MeNO₂ gave 22.2 g. bis(p-nitrocarbobenzyloxy)-L-cystine (IV), m. 110-11° [α]_{25D} -126.4° (c 2.0, EtOH). IV (0.599 g.) in 40 ml. 0.5N NaOH hydrogenated 6 hrs. at 20°/1 atmospheric with 250 mg. 10% Pd-C, the mixture filtered from the catalyst and p-MeC₆H₄NHOH (V), and the filtrate acidified with HCl to pH 5 gave a quant. yield of I. Continuing the hydrogenation 10 hrs., working up the mixture, and taking up the residue in warm 5N HCl gave 284 mg. I. HCl. Extraction of the mother liquors with Et₂O and crystallization of the product from C₆H₆-petr. ether gave V, m. 93-4°. IV (0.599 g.) in 40 ml. 95% alc. hydrogenated 6 hrs. as above, the product extracted with 20 ml. N NaOH, and the extract acidified with HCl to pH 5 gave 230 mg. I, together with an unstable product, probably p-MeC₆H₄NO. IV (4.8 g.) in 30 ml. dry tetrahydrofuran and 3-8 ml. Bu₃N stirred 15 min. with 1.5 ml. ClCO₂Et, stirred 1 hr. at 20° with 2.23 g. H₂NCH₂CO₂Et.HCl and 3.8 ml. Bu₃N in 20 ml. CHCl₃, the solvent evaporated at 50-60°/14 mm., the residue taken up in 100 ml. CHCl₃, the washed and dried extract evaporated, and the residue recrystd. from MeNO₂ gave 4.4 g. Et bis(p-nitrocarbobenzyloxy)-L-cystinyldiglycinate (VI), m. 160-1°, [α]_{25D} -76.6° (c 1.1, Me₂CO). Similarly, 2.4 g. IV and 1.83 g. PhCH₂CH(NH₂)CO₂Et.HCl gave 3.1 g. Et bis(p-nitrocarbobenzyloxy)-L-cystinyldi-L-phenylalanate (VII), m. 173-4°, [α]_{25D} -37.8° (c 0.6, Me₂CO). VI (2 g.) in 75 ml. dioxane treated twice with 35 ml. 0.1N NaOH in 1 hr., the mixture stirred 1 hr. at 0-5° and 30 min. at room temperature, the solution diluted with 400 ml. H₂O, extracted with EtOAc, the aqueous layer acidified to Congo red with concentrated HCl, and the crystalline product recrystd. from MeNO₂ gave 1.75 g. bis(p-nitrocarbobenzyloxy)-L-cystinyldiglycine (VIa), m. 111-13°, [α]_{25D} -79.8° (c 1.3, Me₂CO). Similarly, 2 g. VII was hydrolyzed to 85% bis(p-nitrocarbobenzyloxy)-L-cystinyldi-L-phenylalanine (VIIa), m. 118-20° [α]_{25D} 49.1° (c 2.5, Me₂CO). VIa (7.30 g.) in 25 ml. 95% alc. hydrogenated 8 hrs. at 20°/1 atmospheric with 250 mg. 10% Pd-C, filtered from the catalyst, the L-cystinyldiglycine extracted with 20 ml. N NaOH, the solution neutralized to litmus with 15% HI, filtered, the filtrate concentrated at 40-50°/14 mm., diluted with EtOH, filtered, and the precipitate recrystd. from dilute alc. yielded 90% known L-cystinyldiglycine (cf. Loring and du Vigneaud, C.A. 29, 11137). Similarly, 0.893 g. VIIa hydrogenated, the product extracted with 20 ml. N NaOH, the extract neutralized, concentrated, and the residue washed with alc., taken up in N HCl, treated with an equal volume of concentrated HCl, and chilled gave 87% L-cystinyldi-L-phenylalanine-2HCl (VIII), m. 256° (decomposition), [α]_{25D} -57.3° (c 0.8, N HCl). VIII (0.608 g.) in 40 ml. N NaOH hydrogenated 12 hrs. at 20°/1 atmospheric with 250 mg. Pd-C, filtered, the concentrated filtrate adjusted to pH 4.8 with concentrated HCl, diluted cautiously with alc., stored overnight, filtered, and the precipitate dried gave 0.485 g. L-cysteinyl-L-phenylalanine, m. above 300° (decomposition), [α]_{25D} -8.9° (c 2.0, N HCl). I.HCl (3.14 g.) in 60 ml. N NaOH stirred at 0° with addition of 5 portions of 0.342 g. p-O₂NC₆H₄COC₂H₅ in 6 cc. dioxane in 30 min., the mixture stirred 30 min. at room temperature, washed twice with Et₂O, acidified with concentrated HCl to litmus,

evaporated in vacuo, filtered, and the precipitate recrystd. from hot H₂O gave 3.2 g.

S-(p-nitrobenzyl)-L-cysteine hydrate (IX), m. 233-4°; Et ester, m. 172-3°, $[\alpha]_{25D} 27.3^\circ$ (c 1.06, alc.). IX (0.548 g.) in 40 ml. alc. and 20 ml. N HCl hydrogenated 3 hrs. at 20°/1 atmospheric with 138 mg. 10% Pd-C, filtered, the product precipitated as the mercaptide with Hopkins reagent, filtered after 24 hrs., the precipitate stirred in 20 ml. H₂O, the suspension saturated with H₂S, filtered, the filtrate basified with NaOH, the alkaline solution treated with a small crystal of CuSO₄·5H₂O, air bubbled through 2 hrs. to disappearance of the violet color, the solution treated with C, filtered, the filtrate neutralized with HCl, kept 2 hrs. at room temperature, filtered, and the washed precipitate taken up in N NaOH and neutralized

with N HCl gave 96 mg. II, m. 255-60° (decomposition), $[\alpha]_{25D} -225^\circ$ (c 1.04, N HCl). The labilization produced by introduction of a p-O₂N radical afforded the possibility of reducing peptide intermediates containing cystinyl or cysteinyl residues, in which part of the structure is not amenable to reduction with Na in liquid NH₃.

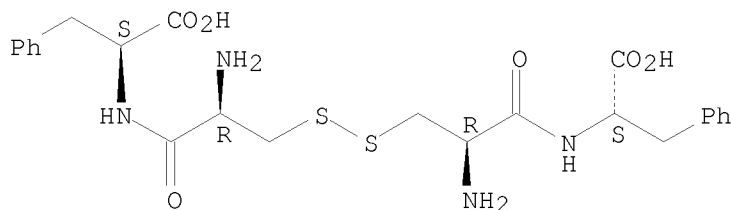
IT 115404-04-1

(Derived from data in the 6th Collective Formula Index (1957-1961))

RN 115404-04-1 CAPLUS

CN L-Alanine, N,N'-L-cystylbis[3-phenyl-, dihydrochloride (6CI) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

IT 7729-20-6P, Glycine, N,N'-L-cystyl-di-

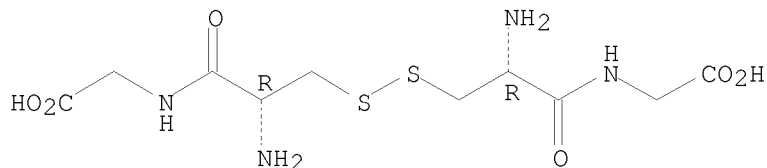
RL: PREP (Preparation)

(preparation of)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 393 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1958:20840 CAPLUS

DOCUMENT NUMBER: 52:20840

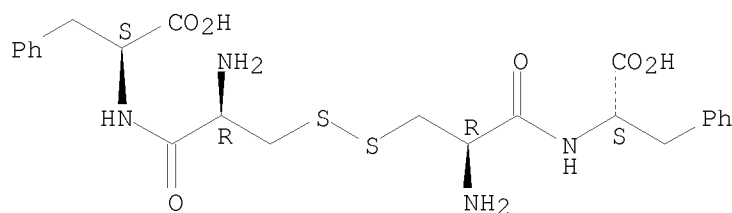
ORIGINAL REFERENCE NO.: 52:3685g-i

TITLE: Synthesis of hypertensin-II-peptides

AUTHOR(S): Rittel, W.; Iselin, B.; Kappeler, H.; Riniker, B.;

Schwyzzer, R.
 CORPORATE SOURCE: C I B A, Basel, Switz.
 SOURCE: Angewandte Chemie (1957), 69, 179
 CODEN: ANCEAD; ISSN: 0044-8249
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 AB cf. C.A. 51, 6720h. A hexapeptide derivative
 valinyltyrosinylvalinylhistidinylprolinylphenylalanine Me ester (I) was
 prepared from the dipeptides valinyltyrosine, valinylhistidine, and
 prolinylphenylalanine; I was condensed with
 carbobenzyloxyasparaginylnitroarginine to
 carbobenzyloxyasparaginylnitroargininylvalinyltyrosinylvalinylhistidinylpr
 olinylphenylalanine Me ester (II), m. 214-16° (decomposition),
 $[\alpha]_{23D} -27 \pm 4^\circ$ (HCONMe₂). Catalytic hydrogenation of II
 gave the tri-HCl salt of the octapeptide ester
 asparaginyllargininylvalinyltyrosinylvalinylhistidinylprolinylphenylalanine
 Me ester. Alkaline saponification gave free valinyl(hypertensinyl-II)aspartic
 acid
 β amide, colorless powder. In the same way as II was made
 carbobenzyloxyasparaginylnitroargininylvalinyltyrosinylisoleucinylhistidin
 ylprolinylphenylalanine Me ester m. 205° (decomposition), $[\alpha]_{23D}$
 $-29 \pm 4^\circ$ (HCONMe₂). Isoleucinyl(hypertensinyl-II)aspartic acid
 β -amide, was made in the same way as described above.
 IT 115404-04-1
 (Derived from data in the 6th Collective Formula Index (1957-1961))
 RN 115404-04-1 CAPLUS
 CN L-Alanine, N,N'-L-cystylbis[3-phenyl-, dihydrochloride (6CI) (CA INDEX
 NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 394 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1957:103341 CAPLUS
 DOCUMENT NUMBER: 51:103341
 ORIGINAL REFERENCE NO.: 51:18623g-i,18624a
 TITLE: A comparison of the reactivity of the disulfide bond
 in wool and peptides
 AUTHOR(S): Alexander, P.; Fox, M.
 CORPORATE SOURCE: Roy. Cancer Hosp., London
 SOURCE: Proc. Intern. Wool Textile Research Conf., Melbourne,
 1955 (1955), C, 35-48, discussion 456-7
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 AB A selection of cystine peptides was oxidized in turn by aqueous Cl₂ (pH 2 and
 10 for 10 min.) and aqueous KMnO₄ (pH 2 and 9.2 for 15 min.) with a view to
 studying the effect on the reaction of the position of cystine in the
 peptide chain. The cystine of peptides also containing tyrosine, in
 contradistinction from those not containing tyrosine, was found to be neither

completely oxidized by Cl₂ at either pH, nor was it found to be preferentially attacked by acid permanganate. It was concluded that the clear-cut division of the disulfide bonds in wool into 25% oxidizable by acid permanganate and hypochlorite, and 75% not thus oxidizable cannot be explained simply by the way in which they are incorporated into the peptide chain. The oxidation studies were carried out on the following peptides which were prepared by the N-carboxyanhydride method of Bailey (C.A. 45, 7010d): L-cystinylbisglycine (via the diethyl ester dihydrochloride), bisglycyl-L-cystine (via the dimethyl ester dihydrochloride), L-cystinylbis-L-tyrosine (via the diethyl ester dihydrochloride), bis-L-tyrosyl-L-cystine (via hydrolysis with an exact equivalent of 0.1N baryta for 1 hr. at room temperature of bis(O-acetyl-L-tyrosyl)-L-cystine diethyl ester), bis-DL-alanyl-L-cystine, bis-DL-alanyl-L-cystinylbisglycine (via the diethyl ester dihydrochloride), L-cystinylbis(DL-alanyl-L-tyrosine), bis(L-tyrosyl-DL-alanyl)-L-cystine, and also on glutathione. The disulfide contents of the oxidized peptides were estimated by the method of Shinohara (C.A. 30, 22152).

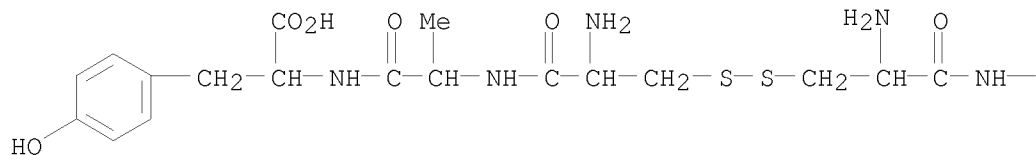
IT 121475-66-9

(Derived from data in the 6th Collective Formula Index (1957-1961))

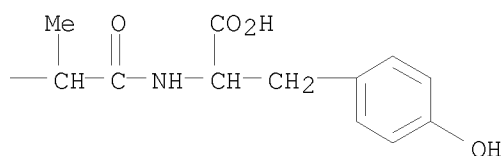
RN 121475-66-9 CAPLUS

CN Tyrosine, N,N'-[L-cystylbis(DL-iminoethylidenecarbonyl)]di-, D- (6CI) (CA INDEX NAME)

PAGE 1-A



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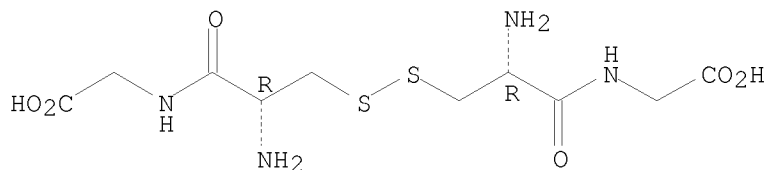


IT 7729-20-6, Glycine, N,N'-cystyl-di-
(disulfide bond reactivity in)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



IT 7369-94-0, Tyrosine, N,N-L-cystyl-di-, L-
(sulfide (di-)-bond reactivity in)

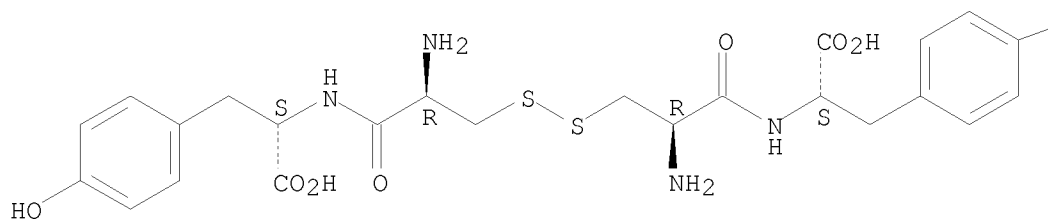
RN 7369-94-0 CAPLUS

CN L-Tyrosine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

OH

L5 ANSWER 395 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1957:103340 CAPLUS

DOCUMENT NUMBER: 51:103340

ORIGINAL REFERENCE NO.: 51:18623e-g

TITLE: Amino acid composition of protein fractions extracted from wool

AUTHOR(S): Simmonds, D. H.; Stell, I. G.

CORPORATE SOURCE: Wool Textile Research Lab., C.S.I.R.O., Melbourne

SOURCE: Proc. Intern. Wool Textile Research Conf., Melbourne, 1955 (1955), C, 75-8

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB cf. C.A. 50, 4255h. The amino acid compns. of 3 protein fractions, extracted with alkaline thioglycolate from Merino wool of 64's quality have been determined

by the method of Moore and Stein (C.A. 46, 7159a). Compared with the composition of the original wool, extract A (C.A. 49, 9701e) consisting of the material most readily extracted at pH 10.5, contains more cystine, glycine, phenylalanine, proline, serine, and tyrosine, and less alanine, arginine, aspartic acid, amide N, glutamic acid, isoleucine, leucine, lysine, and valine than whole wool. Extract E, the material extracted last by treatment at pH 10.5 with thioglycolate, differed particularly in its histidine, arginine, and phenylalanine contents, from both extract A and the kerateine 2 fraction extracted at pH 12.3. The latter contains more alanine, aspartic acid, amide N, glutamic acid, leucine, and lysine, and less cystine, proline, serine, and tryptophan than the parent wool.

IT 7369-94-0 121475-66-9

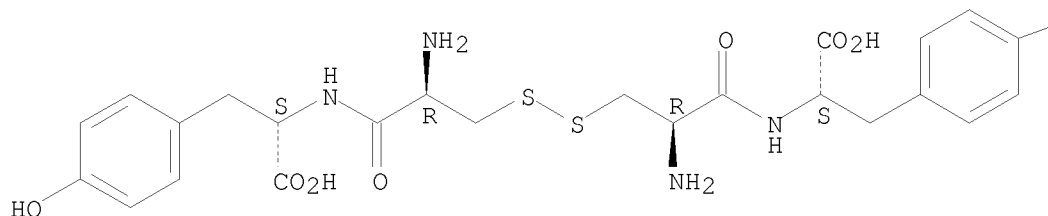
(Derived from data in the 6th Collective Formula Index (1957-1961))

RN 7369-94-0 CAPLUS

CN L-Tyrosine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

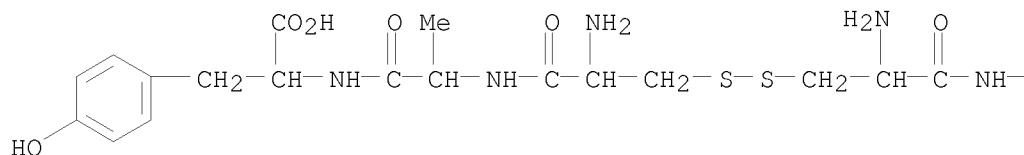


PAGE 1-B

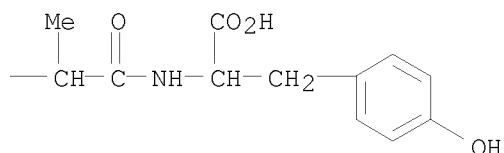
—OH

RN 121475-66-9 CAPLUS
CN Tyrosine, N,N'-[L-cystylbis(DL-iminoethylidenecarbonyl)]di-, D- (6CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



L5 ANSWER 396 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1957:62304 CAPLUS
DOCUMENT NUMBER: 51:62304
ORIGINAL REFERENCE NO.: 51:11325i,11326a-i,11327a-b
TITLE: The reaction of cystine and lanthionine with aqueous calcium hydroxide. The identification of 2-methylthiazolidine-2,4-dicarboxylic acid
AUTHOR(S): Dann, J. R.; Oliver, G. L.; Gates, J. W., Jr.
CORPORATE SOURCE: Eastman Kodak Co., Rochester, NY
SOURCE: Journal of the American Chemical Society (1957), 79, 1644-9
CODEN: JACSAT; ISSN: 0002-7863
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB L(-)Cystine (I), 120 g. Ca(OH)2, and 3 l. H2O kept 4 months at about 25°, and the mixture filtered, acidified to pH 2.5 with (CO2H)2, aerated 2 hrs., filtered, treated with 50 g. Ca(OH)2, filtered, and poured into 12 l. EtOH precipitated crude Ca salt (II) (procedure A). I (120 g.), 120 g. Ca(OH)2, and 3 l. H2O kept 4 months at 25°, filtered, and evaporated to dryness in vacuo at room temperature yielded 154 g. II (procedure B). I (120

g.), 120 g. Ca(OH)₂, and 3 l. H₂O kept 1 month at room temperature, filtered, acidified to pH 2.5 with (CO₂H)₂, aerated overnight, filtered, and evaporated to dryness in vacuo with gentle warming gave 108 g. crude 2-methylthiazolidine-2,4-dicarboxylic acid (III). Crude II (58 g.) (procedure B) suspended in 800 cc. absolute EtOH, treated 0.5 hr. with dry HCl, heated 0.5 hr. on the steam bath, and kept 2 days at room temperature deposited 3.8 g. S, m. 119-20°; the filtrate from the S evaporated in vacuo with gentle warming until no more distillate was obtained, the residue washed with Et₂O, covered with 150 cc. Et₂O, and treated with 80 g. K₂CO₃ in 150 cc. H₂O, the aqueous layer extracted with Et₂O, and the combined Et₂O layer and extract worked up gave 1.15 g. distillate, b. 35-47° (about 3 mm.), and 4.35 g. di-Et ester (IV) of III, b. 107-14° (about 3 mm.). IV (1 g.) in 5 cc. dry Et₂O treated 0.5 min. with dry HCl and allowed to stand 10 min., and the crude precipitate (0.85 g.), m. 105-17°, recrystd. from absolute EtOH yielded large crystals, m. 142-3° (decomposition), of optically active IV.HCl (the m.p. was taken on 1 crystal); the remaining crystals of dl-IV.HCl m. 124-5° (decomposition) with sintering at 120°. II (20 g.) (procedure A) esterified and worked up in the same manner yielded 1.5 g. IV, b₃ 91-8°, which treated with dry HCl gave dl-IV.HCl m. 122-3° (decomposition). II (40 g.) (procedure A) treated in the same manner except that the esterified material was evaporated to dryness and extracted with Et₂O, the Et₂O-insol. residue dissolved in 60 cc. H₂O and extracted with Et₂O, and the oil (10.6 g.) distilled yielded 1.0 g. distillate, b₃ 45°, and 2.0 g. IV, b₃ 107-11°; the aqueous layer treated with 60 g. K₂CO₃ and extracted with Et₂O, and the red oil (5.9 g.) distilled yielded 1.45 g. IV, b₃ 95-112°, which treated with HCl gave dl-IV.HCl, m. 121-4° (decomposition). Crude III (36 g.) (from I) esterified, extracted, and distilled in the usual manner gave 0.80 g. distillate, b₃ 43-5° and 3.15 g. IV, b₃ 110-27°, which treated in Et₂O with dry HCl yielded 1.2 g. IV.HCl, m. 117-26° (decomposition), and 0.1 g. IV.HCl, m. 125-46° (decomposition). III (38.2 g.) and 48 g. Ca(OH)₂ in 1200 cc. H₂O kept 10 days at room temperature, filtered, and poured into 4800 cc. EtOH, and 23 g. of the precipitate (46 g.) worked up in the same manner as in the runs with I gave 6.0 g. oil, b₃ 96-108°; the oil treated with dry HCl, and the crude product slowly recrystd. from absolute EtOH gave 1.338 g. active IV.HCl, m. 140-3° (decomposition), and 2.15 g. dl-IV.HCl, m. 124-9° (decomposition) with sintering at 121°. L-Cysteine (V) HCl salt treated with AcCO₂H by the method of Schubert (C.A. 32, 16986) gave (-)-III, m. 162° (decomposition), [α]_D²⁹ -80.4° (c 5, H₂O); another sample of V.HCl gave (-)-III, [α]_D²⁹ -81.2° (c 5, H₂O). (-)-III (10 g.) in 180 cc. absolute EtOH treated 0.5 hr. with dry HCl, kept 2 days at room temperature, and evaporated in vacuo with gentle warming, the residue, m. 115-25° (decomposition), after removal of 1 g., washed with Et₂O and dissolved in 50 cc. H₂O containing 8 g. K₂CO₃, the aqueous mixture extracted with Et₂O, and the extract worked up yielded 6 g. (-)-IV, b. 131-2° (about 3 mm.), n_D²⁴ 1.4782; the (-)-IV in dry Et₂O treated with dry HCl and the precipitate recrystd. from 1:2 absolute EtOH-Et₂O gave (-)-IV.HCl, m. 142-3° (decomposition) with slight sintering at about 138°. (-)-IV (4.9 g.) (from V) [IV.HCl, m. 140-2° (decomposition), [α]_D²⁹ -54.8° (c 5, EtOH)] in 200 cc. absolute EtOH containing 0.561 g. KOH allowed to stand overnight, 1/2 of the mixture evaporated to dryness in vacuo and extracted with Et₂O, the extract treated a few min. with dry HCl and allowed to stand deposited 1.126 g. crystals; 0.1128 g. of the crystals were (-)-IV.HCl, m. 142° (decomposition) with sintering at 137°; the remaining 90% were dl-IV.HCl, m. 123-7° (decomposition). I racemized in boiling 20% HCl, reduced to DL-cysteine, and treated with AcCO₂H gave 10.5 g. dl-III, m. 168° (decomposition), which esterified and worked up in the usual manner gave 1.05 g. dl-IV, b₃ 130° n_D²⁴ 1.4812; HCl salt, m.

126-7° (decomposition). $S[CH_2CH(NH_2)CO_2H]_2$ (24 g.) and 24 g. $Ca(OH)_2$ in 500 cc. H_2O kept 52 days at room temperature, worked up, and esterified in the usual manner gave 2.56 g. IV, b₃ 107-18°, which treated with dry HCl yielded a mixture of (-)-IV.HCl and dl-IV.HCl. IV.HCl (0.7 g.) in 30 cc. H_2O treated with 0.12 cc. 30% H_2O_2 , kept 3 days at room temperature, and extracted with Et_2O , the extracted aqueous solution basified with 1 g. K_2CO_3 and again extracted with Et_2O , and the 2nd Et_2O extract dried and treated 1 min. with dry HCl gave 0.118 g. cystine di-Et ester HCl salt (VI), m. 180 or 185° (depending on the rate of heating). IV.HCl (0.35 g.), m. 117-26° (decomposition) (from I), gave similarly 0.064 g. VI, m. about 183° (decomposition). (-)-IV.HCl (0.5 g.) and 0.5 g. p-O₂NC₆H₄NHNH₂ (VII) in 15 cc. absolute $EtOH$ heated to boiling, treated with 1 drop glacial $AcOH$, heated 15 min. longer, and kept 1 month at room temperature gave 0.4227 g. yellow p-O₂NC₆H₄NHN:CM₂CO₂Et (VIII), m. 187-8°. dl-IV.HCl, m. 117-26° (decomposition), and 0.5 g. VII gave similarly 0.4329 g. VIII, yellow, m. 186-6.5°. The infrared spectrum of (-)-IV.HCl and the ultraviolet absorption spectra of the high and low-melting IV.HCl and of (-)-IV.HCl are recorded.

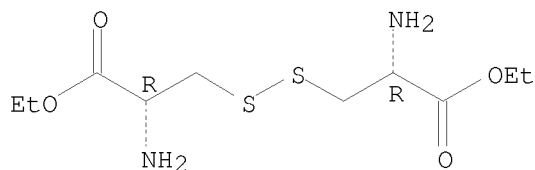
IT 113184-58-0

(Derived from data in the 6th Collective Formula Index (1957-1961))

RN 113184-58-0 CAPLUS

CN Cystine, diethyl ester, monohydrochloride (9CI) (CA INDEX NAME)

Relative stereochemistry.



● HCl

L5 ANSWER 397 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1957:62303 CAPLUS

DOCUMENT NUMBER: 51:62303

ORIGINAL REFERENCE NO.: 51:11325h-i

TITLE: A general reaction of sulfur and ammonia with ketones

AUTHOR(S): Asinger, F.

CORPORATE SOURCE: Univ. Halle-Wittenberg, Germany

SOURCE: Angewandte Chemie (1956), 68, 413

CODEN: ANCEAD; ISSN: 0044-8249

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB cf. *ibid.* 377. Ketones react with S and ammonia gas in the molar proportions 2:1:1 at room temperature or lower to yield 3-thiazolines. These are hydrolyzed by dilute acid to the ketone, ammonia, and a mercapto ketone; the hydrolysis is reversible. 3-Pentanone reacts with S and ammonia to yield 2,2,4-triethyl-5-methyl-3-thiazoline, hydrolyzed by acid to 3-pentanone, ammonia, and 2-mercapto-3-pentanone. The reactions are general for aliphatic ketones and aliphatic or aromatic aldehydes, and are useful both for the preparation of 3-thiazolines and mercapto carbonyl compds.

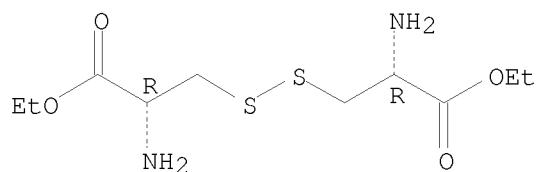
IT 113184-58-0

(Derived from data in the 6th Collective Formula Index (1957-1961))

RN 113184-58-0 CAPLUS

CN Cystine, diethyl ester, monohydrochloride (9CI) (CA INDEX NAME)

Relative stereochemistry.



● HCl

L5 ANSWER 398 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1956:19807 CAPLUS
DOCUMENT NUMBER: 50:19807
ORIGINAL REFERENCE NO.: 50:4014g-i
TITLE: Disulfide interchange reactions
AUTHOR(S): Ryle, A. P.; Sanger, F.
CORPORATE SOURCE: Univ. Cambridge, UK
SOURCE: Biochemical Journal (1955), 60, 535-40
CODEN: BIJOAK; ISSN: 0264-6021
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

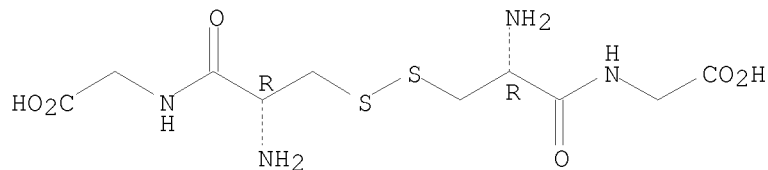
AB A disulfide interchange reaction of the type $(RS)_2 + (R'S)_2 \rightarrow 2RSSR'$ has been studied in acid, neutral and sl. alkaline solns. For the acid reaction the model system consisted of L-cystine and N,N'-bis-2,4-dinitrophenyl-L-cystine; in the neutral and alkaline reactions in the model system L-cystine was replaced by the more soluble cystylbisglycine. The reaction is inhibited in acid solution by thiols, while in neutral and alkaline solns. the reaction is catalyzed by thiols and inhibited by thiol-binding agents. The rate passes through a min. in dilute acid and is greater in strongly acid or alkaline solns. Suitable conditions have been determined for the hydrolysis of proteins without disulfide interchange occurring.

IT 7729-20-6P, Glycine, N,N'-cystyl-di-
RL: PREP (Preparation)
(preparation of)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1-1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 399 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1956:5731 CAPLUS
DOCUMENT NUMBER: 50:5731
ORIGINAL REFERENCE NO.: 50:1207g-i
TITLE: Chemical and microbiological investigations on some substances obtained by decomposition of glutathione
AUTHOR(S): Prizont, L.
CORPORATE SOURCE: Labs. Szabo Hno, Kessler & Cia, Buenos Aires
SOURCE: Revista Farmaceutica (Buenos Aires) (1955), 97, 5-13

DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable

AB Glutathione subjected to hydrolysis in aqueous medium at 37° or at 100° in presence of Me₂CO yield cysteylglycine and its anhydride cyclocysteylglycine. Neither these dipeptides nor their forms of oxidation, cysteylbisglycine and the cyclic dianhydride of diglycylcysteine show bacteriostatic action at concns. 1:104 against *Micrococcus pyogenes* var. *aureus*, *Escherichia coli*, *Streptococcus faecalis*, *Salmoella typhosa*, and *Salmonella paratyphi*, *S. schottmuelleri* and *S. hirschfeldii*. Treating the cyclic dianhydride of diglycylcysteine with NaOH gives a substance bacteriostatic against *M. pyogenes* var. *aureus* at a concentration 1:40,000 and against the other organisms mentioned at 1:104

to

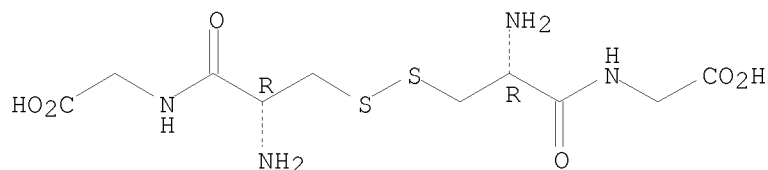
1:2 + 104. The active substance is probably the enol form 3-methylene-2,5-dioxopiperazine.

IT 7729-20-6, Glycine, N,N'-cystyl-di-
 (effect on bacteria)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 400 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1955:60233 CAPLUS

DOCUMENT NUMBER: 49:60233

ORIGINAL REFERENCE NO.: 49:11550d-f

TITLE: Improved synthesis of amino acid benzyl esters

AUTHOR(S): Erlanger, Bernard F.; Hall, Ronald M.

CORPORATE SOURCE: Columbia Univ.

SOURCE: Journal of the American Chemical Society (1954), 76, 5781-2

CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB cf. C.A. 46, 3006b. DL-Phenylalanine (2 g.), 25 cc. PhCH₂OH, and 5 g. polyphosphoric acid stirred 4 hrs. at 90-5°, the solution poured into 200 cc. water containing 10 cc. HCl, extracted with Et₂O, the extract extracted with 2%

HCl, the aqueous phases adjusted to pH 10 with solid Na₂CO₃, extracted with Et₂O,

and the extract saturated with dry HCl yielded 2.3 g. ester-HCl, m. 196°. For the benzyl ester-HCl compds. prepared, the amino acid, m.p. (corrected), [α]_{25D} (0.1N HCl), and c are: L-alanine, 140°, -14.3°, 2.11; L-leucine. 128°. -6.6°, 2.06; L-phenylalanine, 203°, -22.5°, 1.01; L-tyrosine, 205°, -23.3°, 0.97; L-cysteine, 106°, -26.6°, 1.01; L-cystine, 166° (decomposition), 32.8°, 0.68.

IT 84697-17-6P, Cystine, dibenzyl ester, dihydrochloride

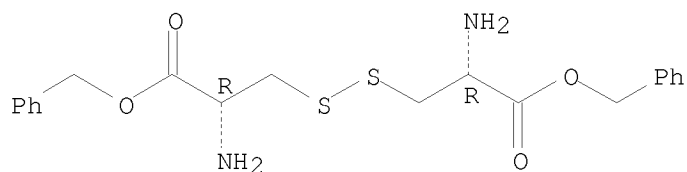
RL: PREP (Preparation)

(preparation of)

RN 84697-17-6 CAPLUS

CN L-Cystine, bis(phenylmethyl) ester, dihydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 401 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1955:28525 CAPLUS

DOCUMENT NUMBER: 49:28525

ORIGINAL REFERENCE NO.: 49:5547i,5548a-b

TITLE: Cytochrome c. I. The amino-acid residues adjoining the prosthetic group

AUTHOR(S): Tuppy, H.; Bodo, G.

CORPORATE SOURCE: Univ. Vienna

SOURCE: Monatshefte fuer Chemie (1954), 85, 807-21

CODEN: MOCMB7; ISSN: 0026-9247

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB Horse cytochrome c was hydrolyzed partially with dilute H₂SO₄, the pH raised to 3-4, and the precipitated pigments (I) were isolated by chromatography on talc. The peptides in I were split from the porphyrin with Ag₂SO₄-HOAc, the cysteine residues oxidized with H₂O₂-HCOOH to cysteic acid residues, and the peptides separated by ionophoresis and, further, by paper chromatography. Hydrolysis of the eluted peptides and end-group analysis with (NO₂)₂C₆H₃F indicated 2 peptide sequences each originally attached to the porphyrin: lysyl-half cystinyl-alanyl-glutamic acid and glutamyl-half cystinylhistidine. Some alanylcysteic acid was found, probably the result of rearrangement during hydrolysis; under these conditions cystinyldialanine (II) and L-β-sulfoalanyl-L-alanine partially invert their sequence. Dicarbobenzoxy-L-cystine was converted by synthesis to dicarbobenzoxy-L-cystinyl-di-L-alanine Et ester, m. 168.5-70.5° (from MeOH), then to the free acid, m. 190-4° (from EtOH-H₂O), and then to II [α]_D²⁰ -137° (5%, N HCl). L-Cystinyl-di-L-alanine, dicarbobenzoxy-L-cystinyl-di-L-alanine, and L-β-sulfoalanyl-L-alanine were also synthesized.

IT 20898-21-9P, Alanine, N,N'-L-cystyl-di-, L-

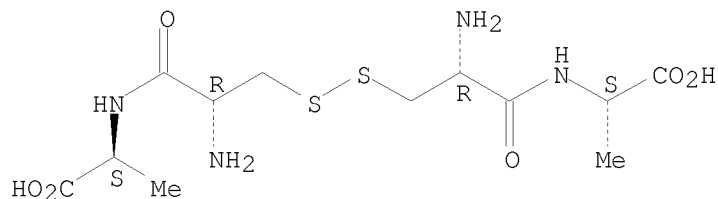
RL: PREP (Preparation)

(preparation of)

RN 20898-21-9 CAPLUS

CN L-Alanine, L-cysteinyl-, bimol. (1→1')-disulfide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 402 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1954:7546 CAPLUS
 DOCUMENT NUMBER: 48:7546
 ORIGINAL REFERENCE NO.: 48:1447g-i
 TITLE: Isolation of a mixed disulfide of glutathione and
 cysteinylglycine from a partial hydrolyzate of
 glutathione
 AUTHOR(S): Wikberg, Eskil
 CORPORATE SOURCE: Biokem. Inst., Uppsala, Swed.
 SOURCE: Nature (London, United Kingdom) (1953), 172, 398
 CODEN: NATUAS; ISSN: 0028-0836
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable

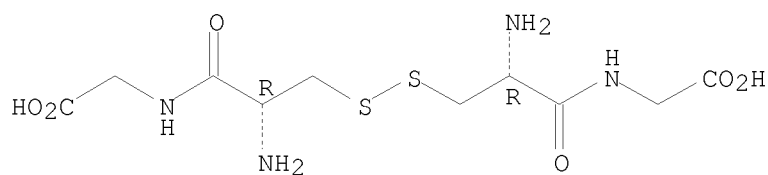
AB Glutathione was partially hydrolyzed in a H₂O solution at 62° for 5 days and the hydrolyzate subjected to electrophoresis on paper in acetate buffer (pH 4.5, μ 0.05) with 0.2 mg. of the substance on Munktell 20 paper by using a potential gradient of 5 v./cm. for 6 hrs., and developed with ninhydrin solution. An immobile spot was found to be cystinylbisglycine, as confirmed by paper chromatography. Two spots traveled toward the anode; one was oxidized glutathione; the other was found to be a mixed disulfide of glutathione and cysteinylglycine, formed either as an intermediate product in the hydrolysis of oxidized glutathione, or secondarily by oxidative coupling of the peptides during storage.

IT 7729-20-6, Glycine, N,N'-cystyl-di-
 (from glutathione partial hydrolyzate)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



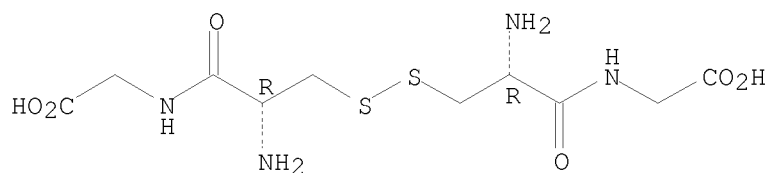
L5 ANSWER 403 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1953:48179 CAPLUS
 DOCUMENT NUMBER: 47:48179
 ORIGINAL REFERENCE NO.: 47:8148f-i, 8149a-d
 TITLE: Purification and properties of an aminopeptidase from
 kidney cellular particulates
 AUTHOR(S): Robinson, Donald S.; Birnbaum, Sanford M.; Greenstein,
 Jesse P.
 CORPORATE SOURCE: Natl. Cancer Inst., Bethesda, MD
 SOURCE: Journal of Biological Chemistry (1953), 202, 1-26
 CODEN: JBCHA3; ISSN: 0021-9258
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable

AB cf. C.A. 46, 5105i. Peptides containing D-amino acids were prepared by amination of the chloroacetyl acid, [α]D given (c 2, water at 26°); glycyl-D-aminobutyric acid, 31.0°; glycyl-D-norvaline, 27.6°; glycyl-D-norleucine, 16.2°; glycyl-D-alloisoleucine, 5.4°; glycyl-D-tyrosine, -44.2°; glycyl-D-methionine, 10.2°; glycyl-D-tryptophan, -34.2° (in 5N HCl); glycylglycyl-L-alanine, -36.3° (at 25°); glycylglycyl-D-alanine, 36.5°. L-Leucinamide-HCl [α]D 10.8° (c 3, N HCl); D-leucinamide-HCl [α]D -10.9°. L-Isovaline and ClCH₂COC1 in chilled NaOH yielded 72% chloroacetyl-L-isovaline (I), m. 158°, [α]D₂₅ 9.2° (c

2, absolute EtOH), 0° (in water). I and the D-isomer shaken 2 days with 20 parts of concentrated NH₄OH at 26°, the solns. let stand 2 days, and the solvent removed yielded about 40% glycyl-L- and glycyl-D-isovaline, [α]_D26 -7.1 and 7.0°, resp., (c 4, 2.5N HCl). Neither compound showed any rotation in water at this concentration. The washed particulate fraction of hog-kidney homogenate, which contains most of the activity toward glycyl-D-alanine (II) and toward glycyldehydroalanine, together with a very small proportion of the total activity toward glycyl-L-alanine, was treated with BuOH, and a soluble peptidase was obtained after a few fractionation steps. The activity of freshly prepared enzyme toward II was about 600 times that of the homogenate. On standing at 0°, either in the lyophilized state or in solution, the activity of the enzyme toward all 3 substrates progressively and proportionately increased 2- to 3-fold in 2-3 mo. The expts. reported are on 2-mo-old preps. which represent an increase of activity toward I over the homogenate of 2000-fold. At 37° the turnover number for I is 60,000/min., and 220,000 at 50°. Electrophoresis and ultracentrifugal studies on the purified enzyme indicated 1 main fraction with an isoelec. point of 4.6 and a mol. weight of 75,000-80,000. About 30% of the enzyme was extractable by organic solvents, and the material extracted appeared to be lipides. Expts. with L- and D-amino oxidase preps. on peptides completely hydrolyzed by the peptidase showed no racemization. The specificity of the peptidase was tested on 65 substrates. The hydrolytic rates of the glycylamino acids, alanyl amino acids, amino acid amides, chloroacetyl amino acids, and tripeptides were determined with purified peptidase. Comparable members of the glycyl-L-, D-, and dehydroamino acids were hydrolyzed at high rates, which were nearly of the same order of magnitude. Peptides lacking a H atom on the α -C atom of the terminal amino acid residue were rapidly hydrolyzed. A free amino group on the acyl residue and a H atom on the peptide N were necessary to confer a high order of susceptibility to the substrate. Tripeptides were hydrolyzed more slowly than the comparable dipeptides. The most striking characteristic of the enzyme was its relatively high requirement for an L configuration of the acyl group, and its relative indifference to the configuration of the terminal amino acid in the peptide. The enzyme is designated a renal aminopeptidase. Several properties of the enzyme are described, such as pH-activity curves, effect of substrate concentration, inactivation by cyanide and SH, and levels of activity in different buffers. The enzyme is activated by Co (most effective), Mn, Zn; inactivated by Cu, Fe(II), and Cr(III); Ni, Mg, and Al are without effect.

IT 7729-20-6, Glycine, N,N'-L-cystyl-di-
(hydrolysis by aminopeptidase)
RN 7729-20-6 CAPLUS
CN Glycine, L-cysteinyl-, bimol. (1 \rightarrow 1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 404 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1951:41240 CAPLUS
DOCUMENT NUMBER: 45:41240
ORIGINAL REFERENCE NO.: 45:7010d-i, 7011a-f
TITLE: Synthesis of simple peptides from
anhydro-N-carboxyamino acids
AUTHOR(S): Bailey, J. Leggett

CORPORATE SOURCE: Univ. Cambridge, UK
 SOURCE: Journal of the Chemical Society (1950) 3461-6
 CODEN: JCSOA9; ISSN: 0368-1769
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 OTHER SOURCE(S): CASREACT 45:41240

GI For diagram(s), see printed CA Issue.

AB cf. Astbury, et al., C.A. 43, 3787c; Woodward and Schramm, C.A. 41, 5752e. Bis(carbobenzyloxy)-L-cystine (5 g.) and 11 g. PC15 in 30 cc. dioxane, shaken with cooling 15 min. and the filtrate warmed 1 hr. at 40°, give 74% bis(anhydro-N-carboxy)-L-cystine (I); crystallized from dioxane, I contains 1 mol. solvent, has no m.p.; crystallized from tetrahydrofuran, I m. 128° (decomposition). O-Acetyl-(N-carbobenzyloxy)-L-tyrosine (3.5 g.) and 3.2 g. PC15 in 20 cc. dioxane, warmed 20 min. at 40°, gives O-acetyl(anhydro-N-carboxy)-L-tyrosine (II), m. 120°. MeCH.CO.O.CO.NH (III) (0.11 g.) in 1 cc. AcOEt at -10°, added to 2 equivs. of H2NCH2CO2Et (IV) (from 0.28 g. HCl salt) in 1 cc. AcOEt at -10°, gives 80% of the carbamate, EtO2CCH2NHCOCHMeNHCO2H.H2NCH2CO2Et (V), m. 71-2° (decomposition). V in CHCl3 evolves CO2 slowly at room temperature and rapidly at 40°. V (0.3 g.) in 2 cc. H2O at room temperature gives 92% 2,5-diketo-3-methylpiperazine (VI). V and CH2N2 in ether give MeCH(NHCO2Me)CONHCH2CO2Et and H2NCH2CO2Et. III in the presence of Et3N polymerizes almost immediately at room temperature; the rate is much slower at -40° and at -70° no polymer seps. in 2 hrs. IV and Et3N (1 equivalent of each) in 1.5 cc. AcOEt at -40°, slowly treated with 0.11 g. III in 1.5 cc. AcOEt at -40° (exothermic reaction after a 10-min. induction period), kept 2 hrs., and precipitated with ether, give the carbamate, EtO2CCH2NHCOCHMeNHCO2H.Et3N (VII), deliquescent, decompose rapidly at room temperature to MeCH(NH2)CONHCH2CO2Et, CO2, and Et3N. VII with 0.37 N Ba(OH)2 (15 min. at room temperature) gives 62% MeCH(NH2)CONHCH2CO2H (VIII). IV (from 0.28 g. HCl salt) in 2 cc. CHCl3 at -65°, treated with 0.4 cc. (C8H17)2NMe (IX) and then with 0.23 g. V in 1.5 cc. tetrahydrofuran (precooled to -65°), kept 3 hrs., allowed to warm to room temperature, and the product hydrolyzed, gives 68% L-VIII and a little VI. IV (from 0.25 g. HCl salt) and 0.4 cc. IX in 4 cc. CHCl3 and 0.17 g. L-III in 20 cc. tetrahydrofuran, kept 3 hrs. at -65°, give 88% L-N-(N-alanylglycyl)glycine, m. 218° (decomposition). L-III (0.23 g.), treated with IV and IX as above at -65°, allowed to warm to room temperature, the solvent removed in vacuo, the mixture cooled to -65° and treated with a 2nd equivalent of L-III, gives 85% N-(N-L-alanyl-L-alanyl)glycine, m. 236-8° (decomposition), [α]22D -48.1° (H2O, c 2). I (0.19 g.) and 0.22 g. PhCH2NH2 in 2 cc. tetrahydrofuran, kept 1 hr. at -40° and decomposed with H2O, give 93% L-cystylbisbenzylamide, [PhCH2NHCOCH(NH2)-CHS]2, m. 122°. I (0.76 g.) in 3 cc. tetrahydrofuran, added to 4 equivs. of IV in 2 cc. of the same solvent at -10°, kept 2 hrs., warmed to room temperature, treated with 0.5 cc. ether, filtered, and diluted with a further 1 cc. of ether, gives the di-Et ester (X), m. 72-3°, of L-cystylbisglycine, [α]21D -72.5°, [α]26.5D -68.5° (H2O, c 1) (78% on basis of I). III (0.11 g.) in 1 cc. AcOEt, treated with 0.2 g. X and 0.14 cc. Et3N in 2 cc. AcOEt at -40°, the solvent removed in vacuo at room temperature, and the residue hydrolyzed with Ba(OH)2 (2 hrs. at 10°), gives 48% di-DL-alanyl-L-cystylbisglycine, with 2 mols. H2O, very hygroscopic. II (0.25 g.) in 2.5 cc. AcOEt at -65°, added slowly to IV (from 0.14 g. HCl salt) and 0.32 cc. IX in 2 cc. CHCl3 at -65°, the solvent removed after 6 hrs. and hydrolyzed with 10 cc. 0.37 N Ba(OH)2 (30 min. at room temperature), gives 62% N-L-tyrosylglycine (XI), m. 260-4°, [α]22D 82.6° (H2O, c 2); the intermediate carbamate, decomposed with CH2N2 in CHCl3, gives 0.3 g. N-(O-acetyl-N-carbomethoxy-L-tyrosyl)glycine Et ester, m. 145-6°. II (0.25 g.) in 5 cc. tetrahydrofuran, added to H2NCH2CONHCH2CO2Et (XII)

and IX in CHCl₃ (6 hrs. at -65°), gives 77% N-(N-L-tyrosylglycyl)glycine, m. 193-5°, [α]_D²² 43.1° (20% HCl, 2.7%). II (0.25 g.) and IV in the presence of IX give the Et ester of XI which, treated with 0.11 g. III at -65° (3 hrs.), give N-(N-L-alanyl-L-tyrosyl)glycine, [α]_D²² 18.5° (H₂O, c 2). II and tyrosine Et ester give 60% N-L-tyrosyl-L-tyrosine, [α]_D²² 29.4° (1 equivalent HCl, 4%). Anhydro-N-carboxy-L-leucine and III in the presence of IX give 88% N-(N-L-leucylglycyl)glycine, m. 217-19° (decomposition), [α]_D²¹ 54.8° (H₂O, c 5). Anhydro-N-carboxyglycine and XI in tetrahydrofuran (3 hrs. at -65°) give 40% N-(N-glycylglycyl)glycine Et ester (XIII). XII in CHCl₃ at 0°, treated with CO₂, gives the carbamate, C₁₃H₂₄O₈N₄, decompose 88-90°; ethereal CH₂N₂ at room temperature gives 82% N-(N-carbomethoxyglycyl)glycine Et ester, m. 104°. XIII similarly gives the N-[N-(N-carboxyglycyl)glycyl]glycine Et ester salt with XIII, m. 115° (decomposition). SCNCH₂CO₂Et (b₇ 104-6°) (10 g.), refluxed 3 hrs. with 50 cc. MeOH and 0.5 cc. Et₃N, gives 13.5 g. MeOCSNHCH₂CO₂Et (XIV), b_{0.1} 101-2°; shaken 1 hr. at room temperature with 18.5 cc. N NaOH, 32 g. XIV gives 20 g. N-(thionocarbomethoxy)glycine (XV), MeOCSNHCH₂CO₂H, m. 79°. XV (20 g.) in 600 cc. anhydrous ether and 11.5 cc. anhydrous C₅H₅N, treated at 0° (75 min.) with 10 cc. SOCl₂ in 150 cc. ether, gives 5.2 g. 2-thio-5-oxazolidone (XVI), m. 108°; 0.12 g. XVI in 2 cc. dioxane, added to III and Et₃N, kept 30 min. at room temperature, and treated with alc. HCl, gives 52% XII.HCl.

IT 7729-20-6P, Glycine, N,N'-L-cystyldi- 33642-58-9P,
Glycine, N,N'-L-cystyldi-, diethyl ester 857942-55-3P,
Propionamide, 3,3'-dithiobis[2-amino-N-benzyl-

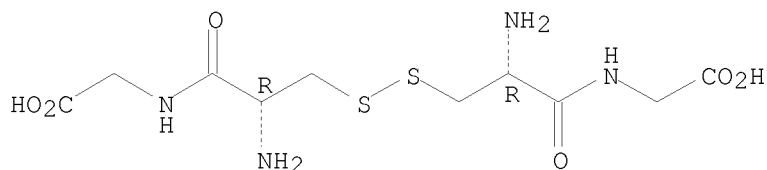
RL: PREP (Preparation)

(preparation of)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

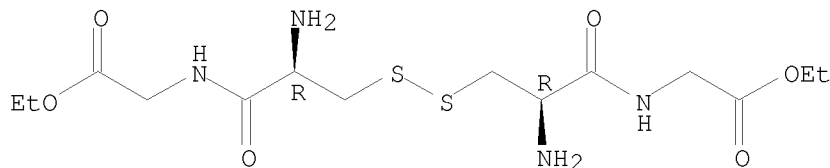
Absolute stereochemistry.



RN 33642-58-9 CAPLUS

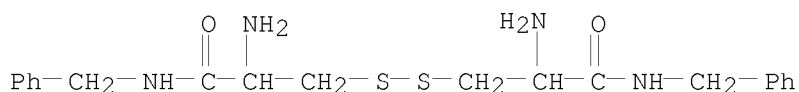
CN Glycine, L-cysteinyl-, ethyl ester, bimol. (1→1')-disulfide (9CI)
(CA INDEX NAME)

Absolute stereochemistry.



RN 857942-55-3 CAPLUS

CN Propionamide, 3,3'-dithiobis[2-amino-N-benzyl- (5CI) (CA INDEX NAME)



L5 ANSWER 405 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1950:7565 CAPLUS

DOCUMENT NUMBER: 44:7565

ORIGINAL REFERENCE NO.: 44:1488f-i,1489a-c

TITLE: Syntheses in the penicillin field. III. The preparation of model thiazolines and thiazoles

AUTHOR(S): Cook, A. H.; Elvidge, J. A.

CORPORATE SOURCE: Imperial Coll. of Sci. and Technol., S. Kensington, UK

SOURCE: Journal of the Chemical Society (1949) 2362-7

CODEN: JCSOA9; ISSN: 0368-1769

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB PhCH₂CONHCH(CN)CO₂H (57.7 g.) and EtSH (600 cc. EtOH containing 1 g. Na saturated

at -10° with H₂S), heated overnight at 50-60° (sealed vessel), give 44 g. α -(phenylacetamido)- α -carbethoxythioacetamide (I), m. 114-15°; 1.2 g. AmCONHCH(CN)CO₂H yields 0.7 g. of the hexanoylamino analog (II), m. 83°. DL-Penicillamine Me ester (III) (HCl salt) and MeCSNH₂ give Et 2,5,5-trimethyl-4-thiazolinecarboxylate, the HCl salt of which could not be reduced over Pt oxide or Pd on polyvinyl alc.; the free base and Al-Hg give 60% of the corresponding thiazolidine. III does not condense with I, the product (m. 192°) formed by heating 30 min. at 170° being the same as that formed by heating I alone. III and AmCONHCH(CO₂Et)₂, heated 8 min. at 170°, give some penicillamine Me ester disulfide (styphnate, with 1 mol. MeOH, m. 71°). III (from 4 g. HCl salt) and 5 cc. CH₂(CO₂Et)₂, added to 10 g. CH₂(CO₂Et)₂ at 175°, give 2.5 g. of a mixture of Me 5,5-dimethyl-2-carbethoxymethyl-4-thiazolinecarboxylate (m. 109-10°) and an oil which, treated with concentrated NH₄OH, gives the N-malonamyl derivative of III, m. 107-8°. I (5.6 g.), 4.2 g. MeCBr(OEt)₂, and 3 cc. EtOH, refluxed 1 hr., give 3.5 g. of the HBr salt, with 1 mol. H₂O, m. 110-11°, of 2-[(phenylacetamido)carbethoxymethyl]thiazole (IV), m. 93°, absorption maximum at 2420 Å. (E₁ cm.1% 220); 987 mg. IV, shaken 15 min. with 6.37 cc. 0.509 N NaOH and acidified at 0° with 7.43 cc. 0.436 N HCl, gives 0.8 g. g-[(phenylacetamido)carboxymethyl]thiazole (V), m. 79° (decomposition) and forming 2-[(phenylacetamido)methyl]thiazole (VI), m. 98°; the pure V appears to be stable at room temperature but the crude acid slowly lost CO₂. V, treated with CH₂N₂ and then with N₂H₄.H₂O (10 min. on the water bath), gives the hydrazide (VI), m. 177°; 325 mg. VI in 5 cc. AcOH and 2.58 cc. 0.436 N HCl, treated at 0° with 90 mg. NaNO₂ in 4 cc. H₂O, gives 210 mg. of the azide (VII), m. 80-1° (decomposition); with PhCH₂NH₂ this yields the benzylamide of V, m. 140°, which is formed also by refluxing V and PhCH₂NH₂ in EtOH (30 min.). V dissolves in cold Ac₂O in 5-10 min. (CO₂ evolution) and yields VI. V in 1 equivalent dilute NaOH gives a fluffy Na salt, which with Ac₂O in C₅H₅N gives a pale yellow compound, m. 89-90° (not VI). VII in C₆H₆, heated at 60°, gives the amide of V, m. 196°; this results also from VII and Ac₂O, Ac₂O in PhNMe₂, C₅H₅N, PhNMe₂ at 70°, or by shaking with Ag₂O in C₆H₆; it was prepared from V and concentrated NH₄OH in EtOH. The Et ester of V and PCl₅ in CHCl₃, warmed 1 hr. on the steam bath, give 5-ethoxy-4-(2-thiazolyl)-2-benzylloxazole, m. 138, absorption maximum at 2780 Å. (E₁ cm.1% 770). V (1.5 g.) and Ph₂CN₂ in ether, kept overnight, give 0.7 g. 2-[(phenylacetamido) (carbobenzhydryloxy)methyl]thiazole, m. 123°; this yields a complex with PCl₅, pale yellow, m. 150°.

IT 167682-68-0P, Valine, 3,3'-dithiodi-, dimethyl ester

911461-24-0P, Valine, 3,3'-dithiodi-, dimethyl ester, styphnate

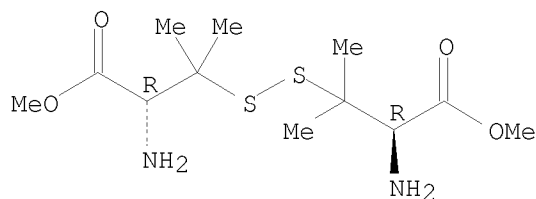
RL: PREP (Preparation)

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RN 167682-68-0 CAPLUS

CN L-Valine, 3,3'-dithiobis-, dimethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

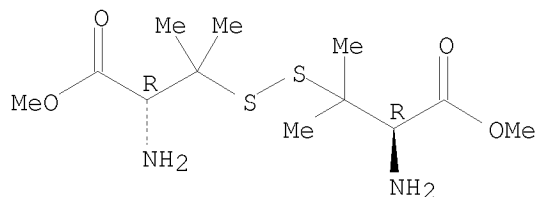


RN 911461-24-0 CAPLUS
CN L-Valine, 3,3'-dithiobis-, dimethyl ester, compd. with
2,4,6-trinitro-1,3-benzenediol (1:1) (9CI) (CA INDEX NAME)

CM 1

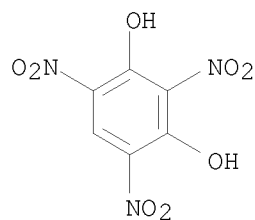
CRN 167682-68-0
CMF C12 H24 N2 O4 S2

Absolute stereochemistry.



CM 2

CRN 82-71-3
CMF C6 H3 N3 O8



L5 ANSWER 406 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1945:20680 CAPLUS
DOCUMENT NUMBER: 39:20680
ORIGINAL REFERENCE NO.: 39:3257f-i,3258a-h
TITLE: The synthesis of cysteine-(cystine-) tyrosine peptides
and the action thereon of crystalline pepsin
AUTHOR(S): Harington, C. R.; Rivers, R. V. Pitt
SOURCE: Biochemical Journal (1944), 38, 417-28
CODEN: BIJOAK; ISSN: 0264-6021
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB For proposed immunological studies the peptides cysteyltyrosine (I),
cystyltyrosine (II), tyrosylcysteine (III), and tyrosylcystine (IV) were

synthesized. S-Benzylcysteine (4.4 g.) (Wood and du Viguenad, C.A. 33, 9285.5) treated with EtOH and HCl gave 4.72 g. of S-benzylcysteine Et ester-HCl (V), plates from EtOH-Et₂O, m. 156-7°. V shaken cold with ClCO₂CH₂Ph (11 ml.), 25 ml. 2 N NaOH, and 25 ml. 2 N Na₂CO₃ in 125 ml. CHCl₃ gave 15.65 g. (84%) of S-benzyl-N-carbobenzyloxycysteine Et ester, (VI) needles from CHCl₃-light petr., m.p. 52-3°. Refluxing VI (25.5 g.) with hydrazine hydrate (6 ml.) and EtOH (60 ml.) yielded 19.7 g. (80%) of S-benzyl N-carbobenzyloxycysteyl hydrazide (VII), large prisms from EtOH, m. 133-4°. O-Benzoyl-N-carbobenzyloxytyrosine (VIII) Et ester, obtained in 14-g. (94%) yield from 11.5 g. N-carbobenzyloxytyrosine Et ester (IX) and 8 ml. BzCl, crystals from C₆H₆-ligroin, m. 92°; 6.9 g. reduced with H₂-Pd black in MeOH-HCl yielded 4.56 g. (85%) of O-benzoyltyrosine Et ester-HCl (X), prisms from EtOH-Et₂O, m. 225° (decomposition). VII (6.3 g.) treated with 79 ml. HOAc, 11.7 ml. 3 N HCl, and 1.23 g. NaNO₂ in H₂O yielded the corresponding azide, which was taken up immediately in Et₂O and added to 8.4 g. X in Et₂O to give 7.96 g. (71% calculated on VII) of S-benzyl-N-carbobenzyloxycysteyl-O-benzoyltyrosine Et ester (XI) spear-shaped needles from EtOH, m. 149°. XI (12 g.) with 11.3 ml. 5 N NaOH in 80 ml. dioxane shaken for 1 hr., gave 8.7 g. (92%) S-benzyl N-carbobenzyloxycysteyltyrosine (XII), m. 198-200°, needles from EtOH-H₂O. XII (5.4 g.) after treatment with Na in liquid NH₃, acidification with 0.5 N H₂SO₄ and purification through the Hg salt, gave 70% of the dipeptide I, m. above 300° (decomposition) [α]_D²⁵ 15.2°, prisms from H₂O. Oxidation of 2 g. I with air at pH 8.5 in the presence of trace of FeSO₄ gave 1.65 g. of a yellow, non-crystalline material; solution of this material in N HCl, followed by addition of an equal volume of concentrated HCl, gave cystyltyrosine-HCl, prismatic needles (XIII),

m.

242-3° (decomposition). Neutralization to pH 4 with NaOAc after solution of XIII in H₂O resulted in the formation of dipeptide (II), m. 294° (decomposition), [α]_D²⁵ -50.8°, spear-shaped needles. II (0.564 g.) dissolved in H₂O with 1 equivalent of Na₂CO₃ and treated with 0.35 ml. ClCO₂CH₂Ph gave N-carbobenzyloxycystyltyrosine (XIV). The product, m. 158°, obtained by precipitation from concentrated EtOAc solution with light petroleum, could not be crystallized. Reduction of 0.4 g. XIV with ZnH₂SO₄ gave 68% N-carbobenzyloxycysteyltyrosine (XV), m. 160-2°, prisms from EtOH-H₂O. N-Carbobenzyloxytyrosyl hydrazide (XVI) was prepared from the corresponding Et ester (8 g.) by boiling for 75 min. with 1.75 ml. N₂H₄·H₂O in EtOH; yield 75% (5.73 g.), needles from EtOH, m. 220-1°. N-Carbobenzyloxytyrosyl-S-benzylcysteine Et ester (XVII), prepared from 8.65 g. XVI and 9.6 g. V as described above for XI (yield 10.82 g.; 81% calculated on hydrazide), needles from EtOH, m. 142-5°. XVII (6.05 g.) treated with 22.6 ml. N NaOH in 23 ml. dioxane at room temperature for 0.5 hr., followed by acidification with dilute HCl to Congo

red,

gave a quant. yield of N-carbobenzyloxytyrosyl-S-benzylcysteine (XVIII), needles from EtOH-H₂O, m. 166°. The reduction of 13.05 g. XVIII and isolation of the dipeptide (III) were carried out exactly as for I; yield 4.83 g. (66%), prisms from H₂O, m. 300° (decomposition). Oxidation of 2 g. III in baryta (27.5 ml. of 0.35 N) with air gave 1.48 g. of IV, prisms from H₂O, m. 292° (decomposition), [α]_D²⁵ -70.8°. IV (0.42 g.) treated with 0.3 ml. ClCO₂CH₂Ph at 0° gave 0.45 g. (72%) of N-carbobenzyloxytyrosylcystine (XIX), prisms from EtOH-H₂O, m. 150° (decomposition). XIX (0.4 g.) in EtOH reduced with Zn-H₂SO₄, extracted with EtOAc, and precipitated with light petroleum gave

0.22 g.

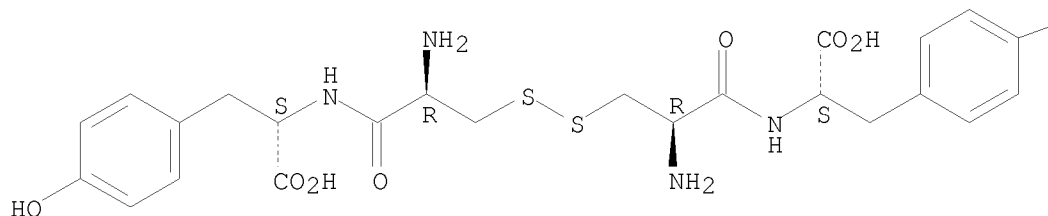
(54%) of N-carbobenzyloxytyrosylcysteine (XX), non-crystalline, m. 120° (decomposition). The peptides and their carbobenzyloxy derivs. were subjected to hydrolysis by crystalline pepsin (XXI) at pH 4.0 and 1.8. The course of the hydrolysis was followed by the ninhydrin method of Van Slyke, et al. (C.A. 36, 110.2). The following figures give the compound hydrolyzed, percent hydrolyzed at pH 4.0 (72 hrs.) and pH 1.8 (48hrs.): I 55, 21; II 7, 0; III

29, 8; IV 8, 8; XIV 29, 6; XV 85, 32; XII 30, -; XIX 11, 0; XX 46, 10. The action of XXI is more marked at pH 4.0 than at pH 1.8, the accepted optimum for peptic hydrolysis. The N-carbobenzyloxy derivs. are more readily attacked but the action of XXI on the free peptides represents the first true instance of peptic hydrolysis of a synthetic peptide by the enzyme. The cysteine derivs. are more susceptible to peptic hydrolysis than the corresponding compds. containing cystine; this observation is considered in relation to the fact that XXI attacks proteins more rapidly after denaturation, which is itself accompanied by the appearance of -SH groups. The significance of these results on Bergman's theory (C.A. 35, 3656.7) of the conditions determining peptic action is discussed.

IT 898816-89-2P, Tyrosine, N,N'-cystylidi-, -HCl
 RL: PREP (Preparation)
 (preparation of)
 RN 898816-89-2 CAPLUS
 CN Tyrosine, N,N'-cystylidi-, -HCl (4CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



●x HCl

PAGE 1-B

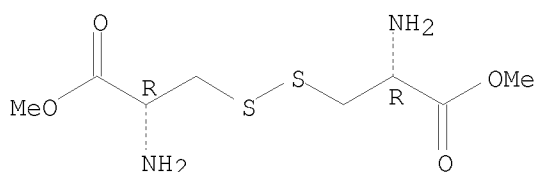
—OH

L5 ANSWER 407 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1943:5151 CAPLUS
 DOCUMENT NUMBER: 37:5151
 ORIGINAL REFERENCE NO.: 37:900a-d
 TITLE: The behavior of cystine dimethyl ester dihydrochloride and of cysteine monomethyl ester monohydrochloride in the Sullivan reaction for cysteine and cystine
 AUTHOR(S): Sullivan, M. X.; Hess, W. C.; Howard, H. W.
 SOURCE: Journal of the Washington Academy of Sciences (1942), 32, 285-7
 CODEN: JWASA3; ISSN: 0043-0439
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 AB Cystine di-Me ester di-HCl (I) and cysteine mono-Me ester mono-HCl (II) are saponified rapidly by cyanide dissolved in alkali to yield cystine (III) and cysteine (IV), resp. Saponification of I is carried out with 0.1 N HCl for 22 hrs. at room temperature; II is not appreciably saponified under these conditions.
 At 5° I is not appreciably saponified by 0.1 N HCl after 22 hrs. Both I and II are stable in aqueous solution I is saponified more slowly in solns. of low

acidity than in 0.1 N HCl. I and II have higher colorigenic values than III and IV, resp., in the Sullivan reaction when NaCN is used. I gives practically the same value as III if NaCN dissolved in NaOH is used to clean the disulfide. When II is so treated it gives the same value as IV. II is prepared by dissolving 1 g. of the IV. HCl in 25 cc. anhydrous MeOH and gaseous HCl is passed into the solution for 1 hr. with warming to 45° for the first 10 min. The solution is poured into 500 cc. anhydrous ether and cooled for 48 hrs. II seps. out in prisms. II is soluble in MeOH and H₂O; slightly soluble in anhydrous EtOH and (Ac)₂O; insol. in Et₂O, petr. ether, benzene and acetone; m. 137-8.5°. Like IV, II gives a red color with Na nitro-prusside and NH₄OH and a blue color with dilute FeCl₃.

IT 32854-09-4P, Cystine, dimethyl ester dihydrochloride
 RL: PREP (Preparation)
 (preparation of)
 RN 32854-09-4 CAPLUS
 CN L-Cystine, 1,1'-dimethyl ester, hydrochloride (1:2) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

L5 ANSWER 408 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1942:33739 CAPLUS
 DOCUMENT NUMBER: 36:33739
 ORIGINAL REFERENCE NO.: 36:5263i, 5264a-c
 TITLE: Effect of certain sulfur-containing compounds on the initiation of mitosis in Amoeba proteus
 AUTHOR(S): Chalkley, Harold W.
 SOURCE: Journal of the National Cancer Institute (1940-1978) (1942), 2, 425-47
 CODEN: JNCIAM; ISSN: 0027-8874
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable

AB cf. C. A. 34, 8069.9. A method is described for the selection, from a culture of amebas, of groups of cells in which many cells will divide during a short period after selection. By use of such cells, the effect of certain S-containing organic compds. on the initiation of fission was studied

by measuring the effect of their addition to the environmental fluid in dilns. of 2×10^{-4} to 5×10^{-3} mols. per l. on the number of cells entering prophase as a function of time. Methionine and cysteic acid gave essentially neg. results. Cystine, cysteine, glutathione, cystine disulfoxide, β, β' -dithiodipropionic acid, cystinyldiglycine, and a mixture of glutamic acid and glycine all affected the course of the reaction. Two classes of effects were obtained: (1) a sudden saltatory change in rate, either increase or decrease, and (2) a change from one level of constant acceleration to another, again in either direction. The effect of a given reagent is a more or less complex pattern of these 2 types. With cysteine changes in both directions of both types were obtained. Cystine and β, β' -dithiodipropionic acid gave opposite responses, as did cystinyldiglycine and diglycylcystine. It is concluded that the mechanism governing the

initiation of fission in *A. proteus* is characterized by lability and considerable complexity. It does not appear that the presence of labile S alone, irrespective of other groups in a given reagent, insures its stimulative action.

IT 7729-20-6P, Glycine, cystinyldi-

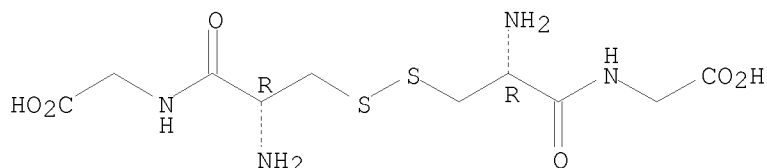
RL: PREP (Preparation)

(preparation of)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 409 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1939:59975 CAPLUS

DOCUMENT NUMBER: 33:59975

ORIGINAL REFERENCE NO.: 33:8646c-e

TITLE: Physical chemistry of cystine peptides

AUTHOR(S): Greenstein, Jesse P.; Klemperer, Friedrich W.; Wyman, Jeffries, Jr.

SOURCE: Journal of Biological Chemistry (1939), 129, 681-92

CODEN: JBCHA3; ISSN: 0021-9258

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB cf. C. A. 33, 6121.1. The dielec. properties of aqueous solns. of diglycylcystine (I) and cystinyldiglycine (II) are identical. This is addnl. evidence for free rotation or its equivalent in these peptides. Estimates of the actual magnitudes of the moments of the following compds. were made on the basis of the dielec. consts., Eyring's formula, and Kuhn's method, resp.: I and II, 30.2, 30.4-33.7, 20.9; ϵ -aminocaproic acid 22, 24-26, 16; tetraglycine 31, 33-35, 24; ϵ - ϵ' -diaminodi-(α -thiocaproic acid) 29, 34-37, < 23; cystinyldi(diglycine) 39, 40-42, < 27; lysylglutamic acid 45, 44-47 (?). Titration data and the titration consts. for I and cystine are given. The actual acidity consts. (intrinsic consts.) of the individual groups are calculated for I, II, cystine and cystinyldi(diglycine). The apparent molal volume of I (199 cc.) is nearly the same as that of the isomer II (194 cc.).

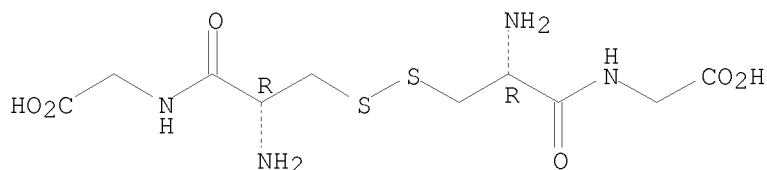
IT 7729-20-6, Glycine, cystinyldi-

(dielec. properties of)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 410 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1939:43264 CAPLUS

DOCUMENT NUMBER: 33:43264
ORIGINAL REFERENCE NO.: 33:6121a-b
TITLE: Physical chemistry of cystinyl peptides
AUTHOR(S): Greenstein, Jesse P.; Klemperer, Friedrich W.; Wyman, Jeffries, Jr.
SOURCE: Journal of Biological Chemistry (1938), 125, 515-26
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

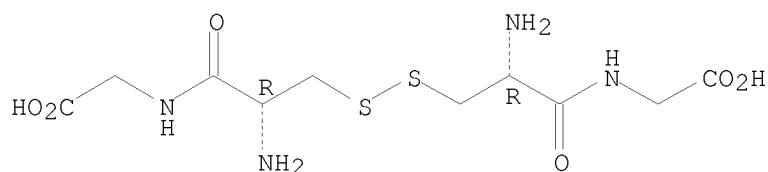
AB The four acidity consts., in aqueous solution at 38°, of cystinyldiglycine are 3.21, 3.21, 6.36 and 6.95 and of cystinyldidiglycine are 3.29, 3.29, 6.01 and 6.87. The dielec. increments of these and other dipeptides of the structure RSSR, where R is a peptide residue containing NH₃⁺ and CO₂⁻ groups, agree well with values calculated on the assumption that there is free rotation around the S-S linkage. This free rotation in peptides is discussed in relation to anomalous dispersion at radio frequencies found with proteins.

IT 7729-20-6P, Glycine, cystinyldi-
RL: PREP (Preparation)
(preparation of)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 411 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1939:43263 CAPLUS

DOCUMENT NUMBER: 33:43263

ORIGINAL REFERENCE NO.: 33:6120h-i,6121a

TITLE: The crystallization of calcium carbonate in the gels and in the sols of gelatin

AUTHOR(S): Bekunov, V. A.

SOURCE: Kinofototekhnika (1937), (No. 8), 46-51
From: Khim. Referat. Zhur. 1, No. 7, 77(1938)
CODEN: KNFOAW; ISSN: 0368-6256

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

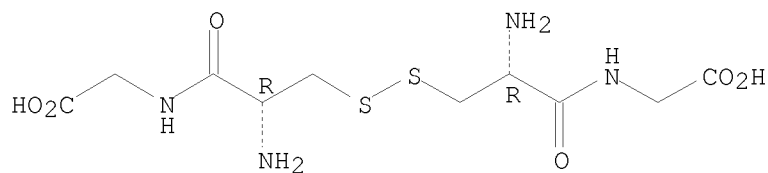
AB The formation of CaCO₃ crystals is the cause of the turbidity of gelatin. Investigations of foreign and of Soviet samples of gelatin showed that the gelatins prepared from bone contain less of the Ca salts than those prepared from leather raw material. The different degrees of turbidity of gelatin plates are due to the different CaCO₃ crystallization processes. The bone gelatins are washed off more easily with water, and they always have larger crystals than the leather gelatins, because of the inhibitors contd. in leather gelatins which retain much of the Ca transformed into the soluble state. After the tanning of the leather gelatins the CaCO₃ crystallization takes place the same as in the bone gelatins. This can be explained by the tying up of the inhibitors by the tanning substances.

IT 7729-20-6P, Glycine, cystinyldi-
RL: PREP (Preparation)
(preparation of)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 412 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1938:60174 CAPLUS

DOCUMENT NUMBER: 32:60174

ORIGINAL REFERENCE NO.: 32:8459e-i,8460a

TITLE: Action of alkalies upon cystine and cystine derivatives. The question of labile sulfur in proteins

AUTHOR(S): Schoberl, Alfons; Hornung, Theo.

SOURCE: Justus Liebigs Annalen der Chemie (1938), 534, 210-25

CODEN: JLACBF; ISSN: 0075-4617

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB The PbS test for proteins is due to their cystine content but the mechanism of the reaction is not known. A partial explanation may be obtained from a study of the action of alkali upon compds. of the type (SRCO2H)2. The primary step in the degradation of such compds. is a hydrolytic splitting of the disulfide linkage, forming SHCRCO2H and HOSRCO2H; the sulfenic acid may then lose H2S to give an aldehyde. Details are given of the action of 12 mols. NaOH per mol. substrate and analyses for cystine NH3, amino N, total N, S, H2S, SH and SS for l-cystine (I), dithiodihydroacrylic acid (II), l-cystinylhydantoin (III), the di-Bz derivative (IV), di-formyl derivative (V), dibromopropionyl (VI), dialanyl (VII), dichloroacetyl (VIII), diglycyl (IX) and dicarbonyl (X) derivs. of I, dicarbonyloxy-l-cystinyl diglycine (XI), l-cystinyl diglycine (XII), SS-(XIII) and SH-gluthathione (XIV). Especially high values for H2S were obtained from III, IX, XI, XII and XIII. I gives 41.7% SH; the next highest value was 36.9% of XII; III, X and XIII gave 0 values. S was obtained from III (51.5%), V (20.87%), VI (3.1%), XI (25.2%) and XIII (14.6%). V yielded cysteine and pyruvic acid. The NH2 values give a good indication of the ease of hydrolysis of the peptide linkages; these values are: I 74.9, II -, III -, IV 35.2, V 50.8, VI 71.5, VII 53.1, VIII 64.1, IX 63.7, X 48.8, XI 17.2, XII 66.2, XIII 58.5, XIV 72.3. On the basis of the splitting off of H2S and NH3 I is very stable toward alkali; X is next. In general, a substitution of the NH2 group by the RCO residue increases the alkali-sensitivity; however, the nature of this group is important; the formyl group possesses a marked lability. III is peculiar in that it yields about 50% H2S and 50% S and no trace of SH-compound; it probably yields 5-methylenehydantoin, H2S and S. XIII yields 68.8% H2S, 14.6% S, 57.6% cystine-NH2 but no SH-compound; XIV yields 43% H2S, 17.6% cystine-NH3 and 64% SH-compound VII resembles XIII and yields 50.8% H2S, 25.2% S but no SH-compound

IT 7729-20-6P, Glycine, cystinyl di-

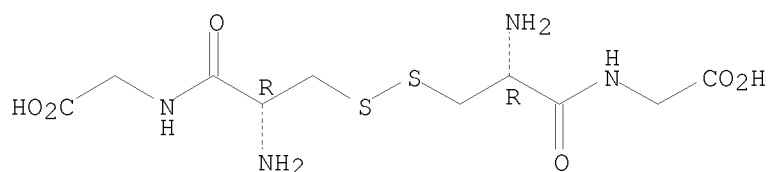
RL: PREP (Preparation)

(preparation of)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1-1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 413 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1938:53486 CAPLUS

DOCUMENT NUMBER: 32:53486

ORIGINAL REFERENCE NO.: 32:7489d-g

TITLE: Studies of multivalent amino acids and peptides. X. Cystinyl peptides as substrates for aminopolypeptidase and dipeptidase

AUTHOR(S): Greenstein, Jesse P.

SOURCE: Journal of Biological Chemistry (1938), 124, 255-62

CODEN: JBCHA3; ISSN: 0021-9258

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB cf. C. A. 32, 113.1. Desirable peptide substrates for peptidases are sufficiently soluble to be used in high concentration and on hydrolysis yield an

insol. amino acid which can be filtered off and estimated Cystinyldidiglycine (I) which serves as a sp. substrate for aminopolypeptidase and cystinyldiglycine (II) for dipeptidase have these properties. The activity of the peptidases is measured by the amount of cystine (III) which seps. as the result of hydrolysis. It is filtered off and estimated by Folin's colorimetric method. Carboxypeptidase does not split III from I or II. Dicarbobenzoxy-L-cystinyldidiglycine, m. 210°, was prepared in 14.7 g. yield by coupling dicarbobenzoxycystinyl chloride (from 23.2 g. of acid) with glycylglycine (from 20 g. of glycine anhydride) in NaOH solution and crystallized by addition of a dioxane solution to a double layer

of ether

and H₂O. Treatment of 12.6 g. with Na in liquid NH₃, precipitation with HgSO₄, decomposition of the precipitate with H₂S, addition of Ba(OH)₂, oxidation to

the

disulfide with air, removal of Ba, evaporation and precipitation with alc.

gave 4.8 g.

of II containing 2 mol. of H₂O, m. 98°, after drying, m. 145°, [α]_{D20} - 55°. The S-S group of II is very easily decomposed by alkali at room temperature A new hexagonal form of III is described.

IT 7729-20-6P, Glycine, cystinyldi-

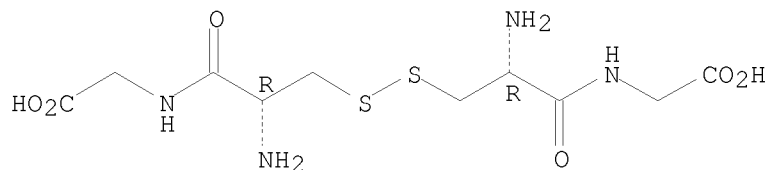
RL: PREP (Preparation)

(preparation of)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



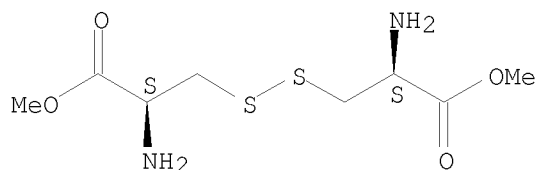
L5 ANSWER 414 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1936:42044 CAPLUS

DOCUMENT NUMBER: 30:42044

ORIGINAL REFERENCE NO.: 30:5560c-d
 TITLE: The spontaneous decomposition of cystine dimethyl ester
 AUTHOR(S): Coghill, Robert D.
 SOURCE: Journal of Biological Chemistry (1936), 114, 419-24
 CODEN: JBCHA3; ISSN: 0021-9258
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 AB The following products have been isolated from the decomposition of cystine di-Me ester at room temperature: S, (NH₄)₂SO₄, dl-alanine anhydride, an ether-, alc.-, and water-insol. solid product, an alc.-soluble, ether-insol. solid product, and a high-boiling, S- and N-containing oil. The course of this decomposition may be through cystine anhydride and a hypothetical dimethylenediketopiperazine.
 IT 444996-03-6, Cystine (β,β' -dithiobisalanine), dimethyl ester
 (decomposition of)
 RN 444996-03-6 CAPLUS
 CN D-Cystine, 1,1'-dimethyl ester (CA INDEX NAME)

Absolute stereochemistry.



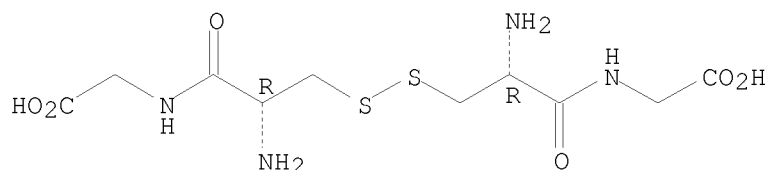
L5 ANSWER 415 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1936:654 CAPLUS
 DOCUMENT NUMBER: 30:654
 ORIGINAL REFERENCE NO.: 30:80h-i,81a
 TITLE: Synthesis of crystalline cystinyldiglycine and benzylcysteinylglycine and their isolation from glutathione
 AUTHOR(S): Loring, Hubert S.; du Vigneaud, Vincent
 SOURCE: Journal of Biological Chemistry (1935), 111, 385-92
 CODEN: JBCHA3; ISSN: 0021-9258
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 AB Dicarbobenzoxycystinyl chloride coupled with glycine (3 mols.) in N NaOH gave dicarbobenzoxycystinyldiglycine (I), m. 182-3° (EtOAc); Et ester, m. 166°. To I (6.2 g.) in liquid NH₃ (II) (50 cc.) was added Na (1.7 g.). After appearance of the blue color, II was evaporated, H₂O added and the solution neutralized with HI and aerated. Acidification with HI, concentration and addition of EtOH precipitated cystinyldiglycine (III) (2.7 g.), m. 210° (Dennis bar), [α]_D²⁷ -67.5° (H₂O), -86.0° (N HCl). Amorphous cysteinylglycine (IV) was obtained by precipitation of the residue from evaporation of II obtained above with HgSO₄. To III (0.76 g.) in II (15 cc.) was added Na (0.3 g.) followed by PhCH₂Cl (0.6 g.). Evaporation, addition of H₂O, extraction with Et₂O and acidification of the aqueous layer gave S-benzylcysteinylglycine, m. 166-7° (H₂O). This was also prepared directly from I in 84% yield. IV (310 mg.) was isolated from glutathione (1 g.) after hydrolysis by the method of Kendall, Mason and McKenzie (C. A. 24, 5760). This was converted into the above crystalline compds. by the above methods.
 IT 7729-20-6P, Glycine, cystinyldi-
 RL: PREP (Preparation)

(preparation of)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 416 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1935:1065 CAPLUS

DOCUMENT NUMBER: 29:1065

ORIGINAL REFERENCE NO.: 29:123d-e

TITLE: The synthesis of cystinyldiglycine and cystinyldialanine

AUTHOR(S): White, Julius

SOURCE: Journal of Biological Chemistry (1934), 106, 141-4
CODEN: JBCHA3; ISSN: 0021-9258

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB From 10 g. dicarbobenzoxy cystinyl dichloride, prepared by the method of Bergmann and Zervas (C. A. 26, 5073), and 3.5 g. glycine in 30 cc. N NaOH was obtained 10 g. dicarbobenzoxy cystinyldiglycine, C₂₆H₃₀O₁₀N₄S₂, m. 161-3°. Removal of the carbobenzoxy group gave 53% cystinyldiglycine, C₁₀H₁₈O₆N₄S₂. Cystinyldialanine was prepared by the same method. Both peptides gave the Sullivan reaction for cystine (C. A. 23, 3941, 4445).

IT 7729-20-6P, Glycine, cystinyldi-

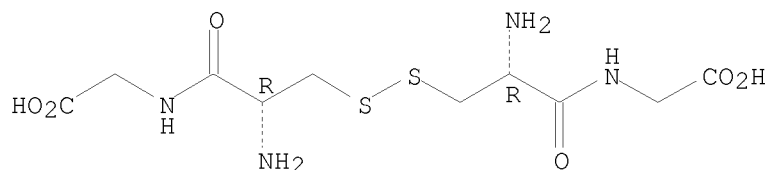
RL: PREP (Preparation)

(preparation of)

RN 7729-20-6 CAPLUS

CN Glycine, L-cysteinyl-, bimol. (1→1')-disulfide (CA INDEX NAME)

Absolute stereochemistry.



L5 ANSWER 417 OF 417 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1917:13063 CAPLUS

DOCUMENT NUMBER: 11:13063

ORIGINAL REFERENCE NO.: 11:2667g-i, 2668a-d

TITLE: Electrochemical chlorination of benzene and toluene

AUTHOR(S): Fichter, Fr.; Glantzstein, Lupu

SOURCE: Berichte der Deutschen Chemischen Gesellschaft (1916),
49, 2473-87

CODEN: BDCGAS; ISSN: 0365-9496

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB through J. Chemical Society 112, I, 124-6. The discordant results obtained by various investigators of the chlorination of C₆H₆ and PhMe at a Pt anode

in concentrated HCl may be due to lack of homogeneity in the electrolyte.
Clear

solns. can be obtained by adding enough glacial AcOH, and expts. with such electrolytes leave no doubt that the chlorination which takes place is really an electrochem. process. Furthermore, under these conditions the chlorination can be pursued to its utmost limits, but compds. containing O are also produced. In the case of C₆H₆ there have been isolated PhCl, p-C₆H₄Cl₂, sym-C₆H₂Cl₄, C₆Cl₆, C₆Cl₅OH and chloranil. Details are given of expts. on the influence of various factors on the reactions, and the isolation of the products is described. Owing to the complexity of the reactions there is no connection between the work done and the amount of current or the time. The best yield of chlorinated products is obtained with 3 faradays, i. e., with a current yielding 3 atoms Cl per mol. C₆H₆. Increasing the concentration of the C₆H₆ up to the point where an emulsion is formed (nearly 1 mol. per l.) improves the yield but the most important factor is current density. Raising the amperage up to about 1 amp. per sq. cm. increases the total yield and also that of the more highly chlorinated products, and no C₆Cl₆ at all is formed with a current density less than 0.26 amp. per sq. cm. Higher temps. are also favorable to the advanced stages of the process. The best conditions for the preparation of C₆Cl₆ are low concentration and higher amperage and temperature and the solid seps.

almost completely on cooling in a very pure form. The total yield and the yield of C₆Cl₆ are greater at Pt anodes than at those of graphite or magnetic Fe oxide, but at these the oxidation is much more important, about 0.5 of the product being soluble in alkalis. In the case of PhMe the complexity of the product and the difficulty of isolating the individual compds. are hindrances to a systematic study of the reactions, but the most important discovery has been made that in the dark at least 3 Cl atoms are introduced into the nucleus before the Me group is attacked. This is good evidence in favor of Bruner's hypothesis that atomic Cl attacks the ring and mol. Cl the aliphatic side chain, and the fact that the electrochem. chlorination of aliphatic compds. is almost impossible (e. g., the AcOH used in these mixts. is unaffected) confirms this. The compds. which have been identified, partly by isolation and partly as the products of the action of boiling H₂O on them, are o- and p-ClC₅H₄Me, 2,4-di-, 2,4,5-tri- and pentachlorotoluenes, C₆Cl₅CH₂Cl, C₆Cl₆, 2,4,5,-Cl₃C₆H₂CHCl₂ and 2,4,5,3,6-Cl₃(HO)₂C₆CHCl₂. With a current of 0.005 amp. per sq. cm. mono- and dichlorotoluenes are the only products; with 0.01 amp. Cl₃C₆H₂Me makes its appearance, but the quinol derivative, which renders the identification of the products so difficult, is not formed until the current density is at least 0.05 amp. per sq. cm.

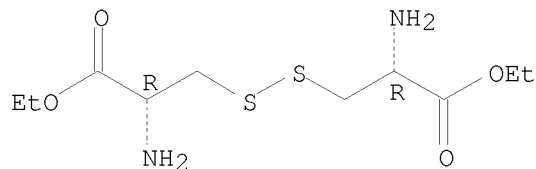
IT 74985-80-1P, Cystine, diethyl ester hydrochloride
RL: PREP (Preparation)

(preparation of)

RN 74985-80-1 CAPLUS

CN L-Cystine, 1,1'-diethyl ester, hydrochloride (1:?) (CA INDEX NAME)

Absolute stereochemistry.



● x HCl